

**Countercycling: An Ethnographic Study of
Waste, Recycling, and Waste-Pickers in
Curitiba, Brazil**

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Declaration

I certify that this thesis is my own work. References to the work of others have been cited and indicated throughout.

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Abstract:

This thesis is a sociological investigation on the recycling of urban waste. It is based on fieldwork carried out in the Brazilian city of Curitiba. The author used a combination of interviews, analyses of quantitative data, and participant observation to understand the work and modes of organisation of informal collectors of recyclables in this city. Curitiba is known in Brazil as the “first-world capital” and, in the world of urban planning, as a “model city” or an “ecological capital city”. These encomiums result in part from Curitiba’s ground-breaking recycling campaigns and systems of waste collection, sorting, and commercialisation. However, the city’s model image hides an army of urban poor and circuits of informal transactions that actually do most of the recycling work. These informal infrastructures are mostly responsible for the city’s official recycling rates, which are comparable to those of the most recycle-minded European cities. The main objective of this research project was to highlight what has been wasted in the building of these idealised images, both of the city and of municipal recycling. The work, organisation, and political struggles of waste-pickers in Curitiba provided the opportunity to carry out this project. Through their work and forms of organisation, waste-pickers (*catadores*) struggle for a space and for change in the urban economy. The author’s thesis is that *catadores*’ position in between systems of value, presents a chance to challenge dominant discourses on recycling, which waste people and resources. I introduce the notion of ‘countercycling’ in order to make sense of the hidden politics of urban recycling.

Table Of Contents

List of Images	6
List of Acronyms	8
Acknowledgements	9
INTRODUCTION	11
De-Familiarising Municipal Recycling.....	13
“Ecological Capital” and Waste-Pickers : Two Disjointed Histories	20
Sociology as ‘Counter-cycling’	24
Outline of the Thesis.....	25
CHAPTER ONE. ON THE VALUE OF A SOCIOLOGY OF WASTE AND RECYCLING	28
Introduction: Why We Need a Sociology of Waste and Recycling	29
Urban ‘Scavengers’: Invisibility and Appearance	34
“Rubbish that isn’t Rubbish”: Recycling as Reconfiguration of Values.....	50
Recycling Value.....	54
Closing the Cycle: Recycling’s Openings and Enclosures.....	68
Accounting for the Values Retrieved from Waste.....	70
CHAPTER TWO. SETTING, RESEARCH, AND REPRESENTATION	78
Introduction: Why Ethnography ?.....	79
The fieldwork.....	97
The Ethnography	99
Temporality, Circulation, and Mobility in Fieldwork: Travel Methods.....	104
Conclusion and Ethical Cautions.....	118
CHAPTER THREE. OCCUPATION: CATADOR	120
Circulating through the City	129
Working in the Urban Space	144
Time and Temporality	157
Conclusion: Autonomy in Want of Organisation	165
CHAPTER FOUR. SOCIALISING WASTE: RECYCLING COOPERATIVES	167
Introduction	170

Organisational Forms: Associations vs Cooperatives.....	174
Reasons for Cooperation.....	183
Obstacles to Cooperation.....	191
The Formation of an Association of Recyclers in Curitiba.....	200
Conclusion: the Socialisation of Labour and Materials.....	207
CHAPTER FIVE. MARKETS OF MATERIALS: EXCHANGES BY AND BEYOND CATADORES.....	209
Introduction.....	213
The Social Geometry of Recycling.....	217
A Market of Peculiar Exchanges.....	225
A Glance Beyond the Membrane.....	235
Conclusion: Multiple Circuits, Defying the Idealised Market.....	240
CHAPTER SIX. COUNTERCYCLING: ALTERNATIVE CIRCUITS OF VALUE.....	243
The Materiality of Possibilities.....	248
Short-circuits: Catadores' Sense of Social Positioning and Ways to Improve it.....	261
On the Possibility of Unplugging and Countercycling.....	268
Conclusion: Countercycling and the Engagement with Other Organisations.....	277
CHAPTER SEVEN. RIGHTS TO WASTE: RE-POLITICIZING URBAN RECYCLING.....	279
Politics through the Law.....	290
Eco-cidadão - Project or Policy?.....	307
Catadores as Subjects of Politics.....	315
Conclusion: Open Space for the Reconfiguration of Strategies.....	325
CONCLUSION: THE USES OF COUNTERCYCLING.....	327
The Thesis.....	332
Expanding the Notion of Value.....	339
Imagining a Post-Recycling World.....	344
Waste, Countercycling, and a New Sociological Imagination.....	350
BIBLIOGRAPHY.....	354

List of Images

Figure 1 "You must recycle or face a fine of up to 1,000 pounds" (Lambeth Council leaflet 2011).....	15
Figure 2 Visual artist Maja Muciek's image of a human foetus made out of recyclable materials (source: http://muciek.blogspot.co.uk).....	28
Figure 3 Semantic varieties in names used in Latin America for waste-pickers.	47
Figure 4 Value, action and meaning in the semantic field of rubbish in Portuguese and in English language. Notes: a) Words also used as adjectives to qualify people and things .v) Words also used as verbs to describe actions related with rubbish making.....	51
Figure 5 A section of the Museum of Rubbish in Curitiba	78
Figure 6 Catador organising his load by an evangelist bookshop at Ruy Barbosa square in Curitiba.....	120
Figure 7 - Tdiago's pushcart and collected materials on a quiet Sunday at Tiradentes square.	122
Figure 8 - Armed security guards in the working area of Cachimba Landfill, April 2010.	130
Figure 9 Ivonete, with her father-in-law's wife, Carmen, and her stepdaughter, Isabel (sitting, legs hanging from the pushcart), at the end of a working evening.....	135
Figure 10 A woman helps a carrinheiro lower his pushcart, which is too heavy for him.....	136
Figure 11 Evaldo carrying 400 kgs on his way home.....	137
Figure 12 Sérgio, catador on a bike drawn cart.....	138
Figure 13 <i>Carroça</i> with 2-year-old Cauane (sitting at the front, not very clear) waiting for her parents.	139
Figure 14 Joel in Santa Felicidade, the first catador I interviewed on the street.	140
Figure 15 Francisco and Fabiana with a full Kombi.....	141
Figure 16 A carrinheiro stops to enjoy the music performed by a busker in the main pedestrian street of Curitiba.....	150
Figure 17 pushcarts and catadores in 1984, mobilised by a situationist group for a 'happening' in the centre of Curitiba addressing issues of social inequality (Photo of a photo exhibited at the Museum Oscar Nyemier).....	162
Figure 18 A catador with his dog, waits to cross the street one of the principal accesses for pushcarts from the main favela to the centre of Curitiba.	167

Figure 19 On the wall of ACAMPA, bags with samples of materials for catadores' reference.	190
Figure 20 Filipe addresses the founding group of Novo Horizonte.	202
Figure 21 The municipal rubbish truck with the new municipal recycling campaign "SEP-A-RATE: the rubbish that isn't rubbish"	209
Figure 22 The truck with Vida Nova's load on its way to Dambrosi, passing by the depot of containers	211
Figure 23 Schema of the official version of the recycling circuits of Curitiba's municipal waste	219
Figure 24 Curitiba's municipal recycling facility located in the neighbour municipality of Campo Magro	221
Figure 25 A simplified version of the two circuits of the urban economy of recycling in Curitiba. The arrows represent flows of materials.	223
Figure 26 One of the creations of Pedro Grapiuna, sculptor, who works exclusively with scrap metal.	243
Figure 27 - The solar panel made of PET plastic bottles at Coopzumbi.	257
Figure 28 Frog-shaped objects by skip at Association Vida Nova.	275
Figure 29 A dress laid at the edge of a rubbish container at Association Vida Nova.	276
Figure 30 Waldomiro Ferreira, by the entrance of the cooperative CATAMARE of which he is the president, with detail of his hat where it reads: "STRUGGLING: For the Preservation of Nature; Against the Privatisation of Waste."	279
Figure 31 the political agents (arrows represent direct interaction)	289
Figure 32 Cover of Modern Recycling (trade magazine) March/April, 2009 "Support of more than R\$69M strengthens coops causing a weak arm in the recycling sector" "Cooperatives vs Traders of recyclables."	292
Figure 33 Margaret Matos de Carvalho and Honorato Saint Clair in the March 1 2011 audience with the "large generators" of solid waste – (photo: PM of Paraná website).	297
Figure 34: Speakers in the Waste and Citizenship Forum of May 2010	300
Figure 35 Map of Brazil with the States that have Waste and Citizenship Forums in green. (Polis, 2007)	304
Figure 36 - The hallway of the Waste and Citizenship Institute-PR.	305
Figure 37 The official logo of the National Movement of Catadores.	319

List of Acronyms

ACAMPA - *Associação Dos Catadores De Materiais Recicláveis Parceiros Do Meio Ambiente* – Association of the Catadores Partners of the Environment

CATAMARE - *Cooperativa de Catadores e Catadoras de Materiais Recicláveis de Curitiba e Região Metropolitana* – Cooperative of Catadores and Catadoras of Curitiba and Metropolitan Region

CEMPRE *Compromisso Empresarial para Reciclagem* Entrepreneurial Commitment to Recycling

CNPJ *Cadastro Nacional de Pessoas Jurídicas* – “national juridical person registration” – the identification number of collective entities for taxation purposes.

IBGE: *Instituto Brasileiro de Geografia e Estatística* – Brazilian Institute of Geography and Statistics

IPPUC - *Instituto de Pesquisa e Planejamento Urbano de Curitiba* – Institute of Research and Urban Planning of Curitiba

MNCR - *Movimento Nacional de Catadores de Recicláveis*. National Movement of *Catadores*

MRF – Materials Recycling Facility

SEBRAE – *Serviço Brasileiro de Apoio às micro empresas* Brazilian Service of Support to Micro enterprises

UVR - *Unidade de Valorização de Recicláveis* (Curitiba’s MRF)

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Introduction

This thesis explores the political dimensions of urban recycling. Municipal recycling has assumed a particular form that has become globally dominant. In the process it has foreclosed many of the values that can be retrieved from urban waste. This thesis challenges the narrow and limited frame imposed by the notion of *re-cycling* and proposes a different sociological way of understanding waste; this alternative conception is called *counter-cycling*.

This thesis is based on research with informal waste-pickers in the city of Curitiba – Brazil, carried out during the year of 2010. The rise of municipal recycling to a central role in the construction of “sustainable cities” has been built on an apparent consensus. For the past 25 years Curitiba has represented this consensus, emerging as a perfect model of what cities can and should do with regards to waste management. Yet, much has been wasted in building those exemplary images, both of the city and of municipal recycling.

In Curitiba, as in the rest of urban Brazil, informal waste-pickers (*catadores*, as they are called in Brazil) do most of the work of collecting materials for industrial recycling. Their contribution is hardly acknowledged in the official narratives of ecological achievement. Their work, forms of organisation, and political struggles provide an opportunity to understand how people and materials can be revalued, and how they are often re-wasted. I will argue that these processes of wastefulness ensue in part from the very concept of recycling.

Re-cycling, as the word indicates, re-introduces materials in the very chain of production that wasted them in the first place. Thus it encloses the potential outcomes of waste revaluation into one streamlined flow of materials and value. This stream is idealised as a closed circuit. Other forms of revaluation, of people and materials, are excluded. Those alternative forms of revaluation are made possible by material recovery, but negated by

its enclosing dynamics. The concept of ‘countercycling’ provides an analytical tool to discern the wasteful dynamics of recycling from the possibility to supersede them.

Catadores are agents of countercycling, in so far as they make possible that resistance to the enclosing dynamics of the globally dominant modality of urban recycling.

What exactly do I mean by ‘globally dominant modality of urban recycling’? What does it mean to say that this model is wasteful and artificially naturalised under an apparent consensus? I want to start with the reader’s probable familiarity with municipal recycling in order to break through its “un-political” crust and start answering these questions.

De-Familiarising Municipal Recycling

This thesis was written in London, and its contemporary readers, more likely than not, live or have had the experience of living in a city of the global North. As such you will probably be familiar with the nitty-gritty of municipal recycling: the tail-chasing arrows that comprise its logo, the two or more colour coded bins, the plastic boxes or green bags, the instructions about what goes in which container, and the days when the truck comes to collect materials, leaving a trail of empty wheelie bins in disarray along the sidewalk, or half-emptied boxes by driveways and front gardens.

You are probably used to wielding the words ‘recyclable’ and ‘non-recyclable’ in repeated short familial debates or inner discussions with yourself about what objects can be saved from the landfill or the incinerator. If you have taken part in such discussions you may have noticed that the classification ‘recyclable’ attains a quasi-ontological quality, appearing as a definite marker of the inherent qualities of the object’s substance. On some occasions, you might believe that there is an undisputable taxonomy that condemns some materials to be buried forever and ascribes to others the possibility of recovery. You may believe that some materials are more valuable than others, for their ability to be reincarnated in new objects, in the same way as gold is appreciated for its

capacity to be infinitely re-melted and easily re-shaped. At times, you may be tacitly convinced that there exists a sort of periodic table that defines each object's capacity to be disassembled into raw materials. The municipal leaflet stuck on your bin, hanging in your kitchen, or displayed on the screen of your computer may seem like the simplified version of that periodic table where the distinction between 'recyclable' and 'non-recyclable' objects is clearly laid out. You probably feel that your aporias originate solely from your difficulty to remember or to interpret the instructions on those information devices.

In the course of these hesitations, discussions, decisions, and actions you have possibly experienced different feelings: anxiety to do the right thing, drive to 'do your bit for the environment'; a sense of establishing a material connection between your home and the city, between your household and the state, or between yourself and the planet. It is also possible that you might have felt an underlying sense of atonement for your ecological 'sins' as a callous consumer.

Depending on where you live, you may have also felt the fear of being fined (see image below), or the allure of a material reward proportional to the weight of the contents of your recyclable bin. For example, in 2012 the local government of the London borough of Lambeth very bluntly threatened its residents with a £1000 fine "if you don't recycle". Simultaneously, in some selected parts of the same borough a scheme in association with the American company RecycleBank offers "rewards to residents who recycle" in the form of vouchers to retrieve goods in local shops. Whether or not there is money involved, the transaction that initiates the recycling process — the handover of sorted waste materials from the household to the municipal services (typically environmental services) — is performed under a set of values that are different from market values. Avoidance of fines, or material rewards, cannot be confused with the price paid for a

commodity. Waste sorted for recycling is only dealt with as commodity after you have handed it over for collection.

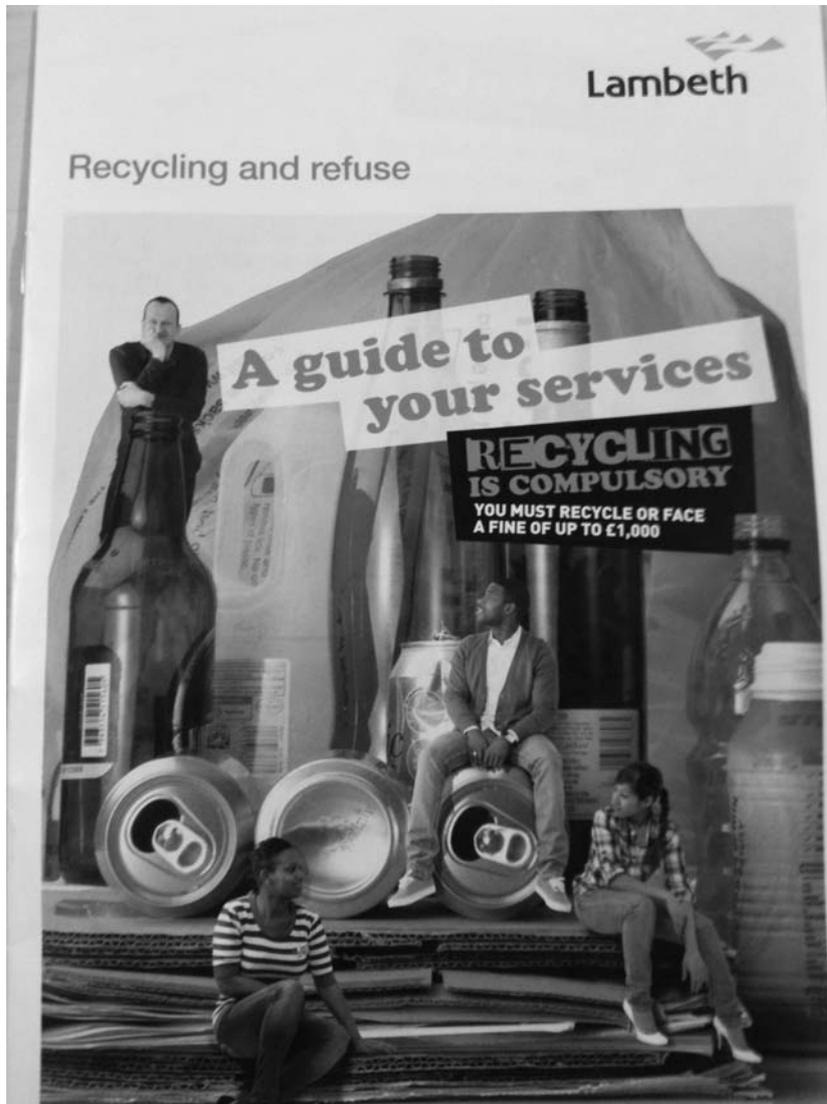


Figure 1 "You must recycle or face a fine of up to 1,000 pounds" (Lambeth Council leaflet 2011)

Because waste is a peculiar commodity, the transactions that follow your handover of separated waste to the outside world may include negative or positive prices. Let me give you two examples of this duality. Until the end of 2011, the London borough of Lewisham used to pay a gate fee to its waste contractor to receive Lewisham residents' recyclables in its sorting plant. As of the following year the council signed a contract with a different waste management company, which pays to the local authority a

significant amount of money for the recyclables that Lewisham residents sort and that the municipal services collect¹. So, in one year the council was paying to have part of its waste recycled; in the following year it is selling the recyclables separated by its residents.

Whether the municipality pays or gets paid to move the materials you have sorted through the recycling chain, what happens next is pretty much the same thing: private waste management companies process them in “state-of-the-art” sorting and bailing plants and then sell the sorted bales of waste, divided by material type, to manufacturers.

The second example of the same transaction involving positive and negative costs concerns the price of waste paper paid by UK paper mills, as recorded by reference trade publications. The price of ‘mixed paper’ (a less valuable class of paper) was £ -20 (minus 20) per ton at different points between September 2008 and January 2009². It has since risen to £ +75 per ton in January 2012. The market of waste materials forces a price on the transaction, whether the price is paid by the supplier or by the purchaser. No one tells you, when they ask you to separate paper from organic waste, that someone might either pay for it or be paid to get rid of it somewhere down the line.

These two examples of negative and positive prices for recyclable material, in conjunction with the examples of the rewards and penalties used by municipalities to promote residents’ participation, help me make two points:

The first point is that municipal recycling is premised on an effort to streamline, in one apparently fluid cycle, different and possibly contradictory systems of value. The fact that payment can go in opposite directions, in equal transactions at different times, shows that the price of recyclable materials quantify different and possibly contradictory

¹ Interview with the Strategic Waste & Environment Manager at the London Borough of Lewisham

² Sources: LetsRecycle.com; Materials Recycling Weekly; Peter Bacon and Associates Economic Consultants Report 2008, *Examination of Impact of Recent Price Collapse in Markets for Recyclate Materials and Required Intervention*.

http://www.repak.ie/files/Bacon%20Report%20on%20Waste%20Markets,%20Nov.%202008_1.pdf

values. This idea will be developed throughout this thesis, in particular through chapters one (The Value of a Sociology of Waste and Recycling), five (Markets of Materials) and six (Countercycling).

The second point is that this political effort of bringing together disparate transactions (the one between yourself and the council and the other between the council's contractor and the market operators) results in opacity; what happens to the rubbish that you have separated is mostly hidden from you. By talking to different people about the way they relate to recycling in their homes, one can conclude that municipal recycling tends to engage residents; but it also contributes to a lack of awareness of the political choices about what happens next. Ecological values, along with consumerist guilt, motivate generous collective participation as much as they draw a green curtain over what happens beyond the bend that the recycling truck takes, when it carries your discards away.

From the moment the council hands over the materials to its contractors, they enter a new world in which market value is supposed to coordinate exchanges. This world is prone to many changes, from technological innovation to the arrival of new actors with interest in the waste business. But because it relies on an articulation between two different arenas — the private and the public sector— with long contracts demanded by capital-intensive models, changes are always hard and wasteful processes. You can sense it when your municipal-wide system of collection, based on assertive classifications, suddenly announces that it will replace your boxes with plastic bags or that new objects are now included in the “recyclable” category. What you are not supposed to know is

how many people are going to be made redundant, or how much material and energy waste the new system is going to generate³.

So “recyclable” — the label defined in the information device that your council relays to you — does not simply indicate inherent properties of a substance. In fact it corresponds to the classification “marketable by the company contracted by the local authority”. The objects are thus valued under their capacity to be transported, extracted, classified, allocated, and transformed through mechanical and industrial processes. The expression “industrial value”, used throughout this thesis, refers to this quality of materials that allows them to be recirculated in industrial networks.

The infrastructure that allows this circulation is the market of recyclables, usually imagined as an efficient network. This market is constructed through negotiations that brandish environmental values and mobilise strong state regulation in order to produce optimal returns to capital investment. This drive is sometimes contradictory with the values of environmental, social, and even resource efficiency that animate the upfront classification as recyclable.

I could perceive this when visiting a state-of-the-art material recycling facility in London. The high consumption of energy is conspicuously audible, the factory works 24 hours a day/seven days a week, and the workers at the end of each conveyer belt are only a small organic part of a cyborg system (Gandy 2003: 231) that imposes a mechanical rhythm over the optimal minimum of human labour. Economies of scale and mechanised technologies of material separation are essential elements for the profitability of recycling systems, from the perspective of capital investment. That causes not only

³ This will not be the focus of this thesis, although the concern with the labour involved in this process is at its very foundation.

ecological contradictions, but also indifference to the human elements of the economies that they generate.

To summarize, recycling means a re-introduction of materials that were wasted in consumption back in industrial production, a process through which collective solidarity and environmental values inform discourses about a material circuit of production coordinated by market value. The result is the enclosure of the potential of waste under one single system of valuation. Market calculations prevail over other systems of valuation, often contradicting them.

In London, where I am writing this thesis, as in other cities of the Global North, local authorities hinge two different types of transaction in the same productive circuit. One of these types of transaction is determined by values of common good; hence the proliferation of campaigns focused on guilt, fear of environmental catastrophe, fines, and incentives. The other type of transaction is commanded by market value, which assumes rational maximisation of individual interest; hence the focus on price mechanisms as the main coordinators of networks. This squaring of the circle (or in this case, circling of the square) is at the basis of the dominant model of urban recycling, which is represented by the recycling icon. The self-chasing arrows of the recycling logo convey the belief that capitalist industrial production can feed on its own waste. It has become a symbol of a path to circular and sustainable modes of production.

In the cities where municipal recycling has become the norm, it appears to have been there forever. This particular modality of revaluing waste has become naturalised. Its implementation is a sign of modernity vis a vis the parts of the world where revaluation of waste depends on informal circuits. Yet, in many boroughs of London, for example, municipal selective collection of waste did not start until 2009. The global dominant modality of municipal recycling, as we understand it now, was unknown before the

1980s, although it had been the aim of activists' campaigns since the early 1970s (Weinberg et al 2000; MacBride 2012). Through this history, a particular modality of urban recycling has been globalised and naturalised. It consists of material recovery organised by the local authority, which mobilises consumers' free labour under moral pressure and sometimes, as we saw above, through monetary coercion or rewards.

The dissemination of municipal recycling as we know it has obscured our knowledge about the people who work in waste recycling, about the people who could, but do not, benefit from the value it generates, and about places where other values are retrieved from recycling. Thus it has occurred at the expense of alternative ways of re-appropriating wasted materials, organised under informal processes or otherwise, that may retrieve from waste more than its value for industrial processes. The Global South contains various examples of urban settings where myriad processes of the revaluation of waste coexist. Curitiba is a very particular city in this respect.

“Ecological Capital” and Waste-Pickers : Two Disjointed Histories

“*Catadores* Don't Want [mayor] Jaime Lerner Picking Their Rubbish”
‘News Courier’, Curitiba, 22/09/1989 (in Massuchetto 2010)

Curitiba, in the South of Brazil, is an example of a city where different approaches to recycling coexist. The city instituted a municipal system of selective collection of solid wastes in 1989 (twenty years before many areas of London). The program was associated with other ground-breaking solutions like the then innovative sanitary landfill of Cachimba, and the projects ‘rubbish purchase’ and ‘green exchange’, of which I will say more later on. Due in part to these policies, the city became famous in the global circuits of urban planning as a model of ecologically sound development.

The municipal recycling system of Curitiba was from the outset rooted on a campaign that engaged residents and became an example of public mobilisation at the urban level. This model was exported to other cities, and Curitiba became regarded as a pioneering example. Equally for these reasons, Curitiba, capital of the state of Parana, became known in Brazil as the “first-world capital”, indicating a peculiar position in the context of other Brazilian cities.

The city’s efforts to highlight its role as pioneer of urban solutions involved hiding many of its ‘non-first-world’ features. First of all, in Curitiba, the recycling of urban waste is an opportunity to redistribute income. The financial arrangement of the municipal recycling system is exemplary of that. The costs of the operation are supported by the Municipal Environmental Secretariat and the income generated by the sales of materials is channelled into the Foundation of Social Action — the municipal social services. The system promotes transference of resources from the environmental budget to the municipal social welfare pot.

Moreover, the case of Curitiba has other commonalities with the Brazilian context. As I will show in this thesis, the official model of recycling only processes 1-2% of the waste collected in the city. Adding up official estimates, one realises that the remainder of its 20 % recycling rate, of which the local authority is rightly proud, actually reflects material collected and sorted by informal waste-pickers. These figures will be presented in the discussion on the “upper circuit” of urban recycling in chapter five — Markets of Materials.

The main aim of this research is to find out what recycling wastes and what may be the role of waste-pickers in countering such a wasteful process. What values are retrieved from the city’s discards, when the dominant models of municipal recycling are not followed? What can we learn from the experiences of the urban South, not as they are

conveyed by discourses of “city marketing” (Ward 1998), but rather as they can be perceived through the study of its human infrastructures? In more detail, the research questions at the core of this research project can be outlined as the following:

-Are *catadores* true social agents (mediators) in the recycling processes or simply intermediaries, passive pieces of a system of production in which they do not interfere?

- How can *catadores* both struggle to stay in business and confront the exploitation to which this very business condemns them?

- In other words, what is the tension between integration in the urban economy and an ability to defend social space and produce change?

In order to address these questions, I carried out ethnographic research in Curitiba during 2010.

I arrived in the city twenty years after it was first internationally acclaimed as a pioneer of municipal recycling. In 1989 the city of Curitiba had launched one of the first municipal recycling campaigns in the world. It was called “rubbish that isn’t rubbish”. It urged residents to separate household waste for the new kerbside selective collection.

Curitiba’s local government, at the time formed by a group of architects and urban planners under the leadership of Jaime Lerner, also launched an array of other groundbreaking waste management policies. Mostly on account of these policies, Curitiba was awarded, in 1990, the highest environmental distinction for sustainable urban planning by the United National Environmental Program. Since then the city has repeatedly been the object of international case-studies and has won prizes as an example of ecologically minded urban planning (cf. Hawken, Lovins, and Lovins 2010 [1999]; Rabinovitch 1992; Moore 2007; Irazabal 2005; Schwartz 2004; World Bank 2010; see also *A Convenient Truth* 2006).

During fieldwork I was able to witness that many elements of the once-ground-breaking policies were still functioning. In that year, Curitiba was still one of the 8% of municipalities in Brazil with citywide kerbside recycling collection. The majority of them only covered 10% or less of the population, whereas Curitiba covered 100%⁴.

Furthermore, international awards kept being bestowed upon the city⁵, which is also a central case study in the discipline of Geography in the British GCSE syllabus. In 2010, Jaime Lerner was nominated by Time magazine as one of the 100 most influential people in the world, mainly due to his legacy as mayor of Curitiba (1971–75, 1979–84, and 1989–92). During fieldwork, I could also appreciate the importance attributed by Curitibaans to the city's reputation as the 'ecological capital'. Residents generally take pride in many of its achievements, even when they voice strong criticism to the dominant urban politics of their city.

Researchers, journalists, and NGO workers from all over the world visit Curitiba regularly, mostly to witness the results of its "urban miracle" (Moore 2007). I had the chance to meet some of them and hear about their impressions of the city. Many reinforce the official narratives of sustainability and success. Others become critical of it for different reasons. Amongst the reasons for criticism is the fact that, according to official numbers, 92% of the municipal waste recycled in Curitiba is collected by *catadores*⁶ and not by the private company contracted by the municipality to do the job. Thus recyclable waste does not follow the routes outlined in the official discourses.

The newspaper headline from 1989, quoted at the beginning of this section, is a reminder that the institution of Curitiba's recycling system was not the unanimous and

⁴ CEMPRE - Compromisso Empresarial para Reciclagem. (n.d.). Retrieved September 24, 2013, from http://www.cempre.org.br/ciclossoft_2010.php

⁵ Such as the CITIES Award for Excellence in 2002 and the Globe Sustainable City Award of 2010 by Swedish Globe Forum.

⁶ According to official data provided by the Municipal Environmental Secretariat and widely circulated amongst policy circles

linear process that it appears to have been. In fact it provoked the contestation of groups of *catadores* which thought that “rubbish that isn’t rubbish” would privatise a public resource that provided their livelihood. In fact that did not happen entirely, as we can see by the fact that most of the recyclable waste is still collected by *catadores*. It turns out that Mayor Jaime Lerner and his political heirs did not steal the rubbish from *catadores*, as they feared in 1989. What the local authority has appropriated was the recognition for waste-pickers’ work. Through this lack of recognition, *catadores* are also excluded from many benefits that their work could earn them. Under the cover of environmental soundness, the city has made a controversial issue appear to be “un-political” (Crenson 1971; MacBride 2012). Recycling came to represent an incontestable unilinear route for development.

Sociology as ‘Countercycling’

The point of this initial journey between the ‘there’ of the ethnographic research and the ‘here’ of the writing up has a purpose beyond the eventual interest of the information it contains: the sociological value of this case-study. What follows seeks to establish that value.

Boaventura de Sousa Santos’ appeal for the construction of “epistemologies of the South” (Sousa Santos 2010) becomes timelier as the Global North faces economic crises, which the Global South is more than used to dealing with. My aim in researching the urban political economy of waste in a Brazilian city is precisely to foster the knowledge flows from South to North that counter the assumed train of progress. The division of the world in two, between the underdeveloped or developing South, on the one side, and the modern industrialised North, on the other, is losing much of its remaining heuristic power. Instead, development is increasingly dependent on the capacity to integrate different experiences from across the world at local levels.

At the foundation of this research project lays the idea that sociology must help societies revalue its waste, in the wider sense of the word. The geographical, social, economic, gender, racial, national, or epistemological sectors of the world which are devalued, oppressed, forgotten, made invisible, and condemned to muteness have a lot to teach us about how to tackle the most difficult social problems we face today. Many of those problems appear unsolvable precisely because of those processes of devaluation. This thesis is part of an approach to sociology that aims at new forms of revaluation of different social 'wastes'. In this case, I am looking at informal waste-pickers (*catadores*) and their organisations in an atypical city in Brazil. The aim is to investigate the values they retrieve from urban waste and the potential advancement their dynamics may bring to our understanding of the waste crisis and social change in general.

Outline of the Thesis

In this introduction I have presented the relevant features of what I call the dominant model of urban recycling, as it manifests both in cities of the global North and in the official discourse of Curitiba as a model-city.

In the following chapters the focus shifts to the *catadores* of Curitiba, who are the protagonists of this narrative.

Chapter one (On the Value of a Sociology of Waste and Recycling) discusses various literatures relevant to the argument of this thesis. Literature on waste, 'scavengers', and value are brought into conversation so as to discuss the sociological meanings of urban waste, recycling, and the people who work with them. The main purpose of chapter one is to interrogate the associations between devalued materials and devalued people and the ways in which these people may confront the systems of valuation that condemn them both. Issues around the plurality of values and systems of valuation are brought to life through dialogues with rubbish theories and 'scavenging' studies.

Chapter two (Setting, Research, and Representation) discusses the research process and the account of it presented in this thesis. It starts with a characterisation of the place and region where the fieldwork took place. It follows on with a discussion of the methods used both in the research process and in the production of this account.

Chapter three (Occupation: *Catador*) concerns the labour of collection of recyclable materials. It focuses on waste-pickers' individual engagements with the city, with waste materials, with their working tools, and with their occupation. Space, mobility, and temporality are the main axes along which the analysis unfolds. Through looking at their work, which is made invisible even to many of the other residents of the city, we will begin to identify forms of self-worth and labour values that configure an occupation not always accepted by the rest of the city.

Chapter four (Socialising Waste) follows the materials after collection to concentrate on the *catadores'* cooperatives of production and commercialisation. Minding that only a small minority of waste-pickers in Curitiba are organised in cooperatives or associations, chapter four seeks to explain *catadores'* organisational achievements, as well as the obstacles to cooperative organisation.

Chapter five (Markets of Materials) investigates what happens to the product of the cooperatives' sales. In this chapter I map and analyse the circuits of waste materials that carry part of the urban discards all the way to reprocessing. *Catadores*, middlemen, formal deposits, and industry are connected through means of transportation and infrastructures of communication and exchange that are much more complex than what is suggested by the single circular direction of the recycling symbol. The questions here are: What and whom do these circuits exclude? What important information do they retain? What types of exchange do they promote? And most crucially to the

development of this thesis, what position do *catadores* occupy on those circuits and what possibilities does that position afford them?

Chapter six (Countercycling) picks up this last question and the particular position of *catadores*, to explore the ways in which they imagine their ability to escape from the centrifugal force of the larger circuits of revaluation. Through different moves, especially in the context of cooperative work, *catadores* retrieve different sorts of value through their work, and sometimes design new circuits of value that unplug, short-circuit, escape, or counter the univocal force of markets. Chapter six marks a shift in this thesis from a focus on the analysis and description of the urban economy, and on the way *catadores* fight to gain space within it, to a discussion of the processes through which they attempt or manage to change it. The notion of countercycling will be developed here.

Chapter seven (Rights to Waste) carries out a political discussion, focusing predominantly on *catadores*' interactions with the state. Several institutions that represent the state vie to push forward their particular agendas. By negotiating these often-contradictory forces, *catadores* have fought for changes in law and policy and have learned how to seize the opportunities opened by those changes and political contradictions.

The conclusion to this thesis summarises and evaluates the findings of the research. The chapter interrogates what the findings tell us about the systems of value that place *catadores* in the precarious position of being both low paid labourers that carry low social esteem and workers who are subject to all the risks inherent to their condition as sort of individual merchants, who live and work in informal conditions. It also evaluates their position in terms of the other values and circuits of value that they generate or are in a position to generate. Finally, the conclusions will be assessed in terms of what they can tell us about the dominant discourses on recycling.

Chapter One. On the Value of a Sociology of Waste and Recycling

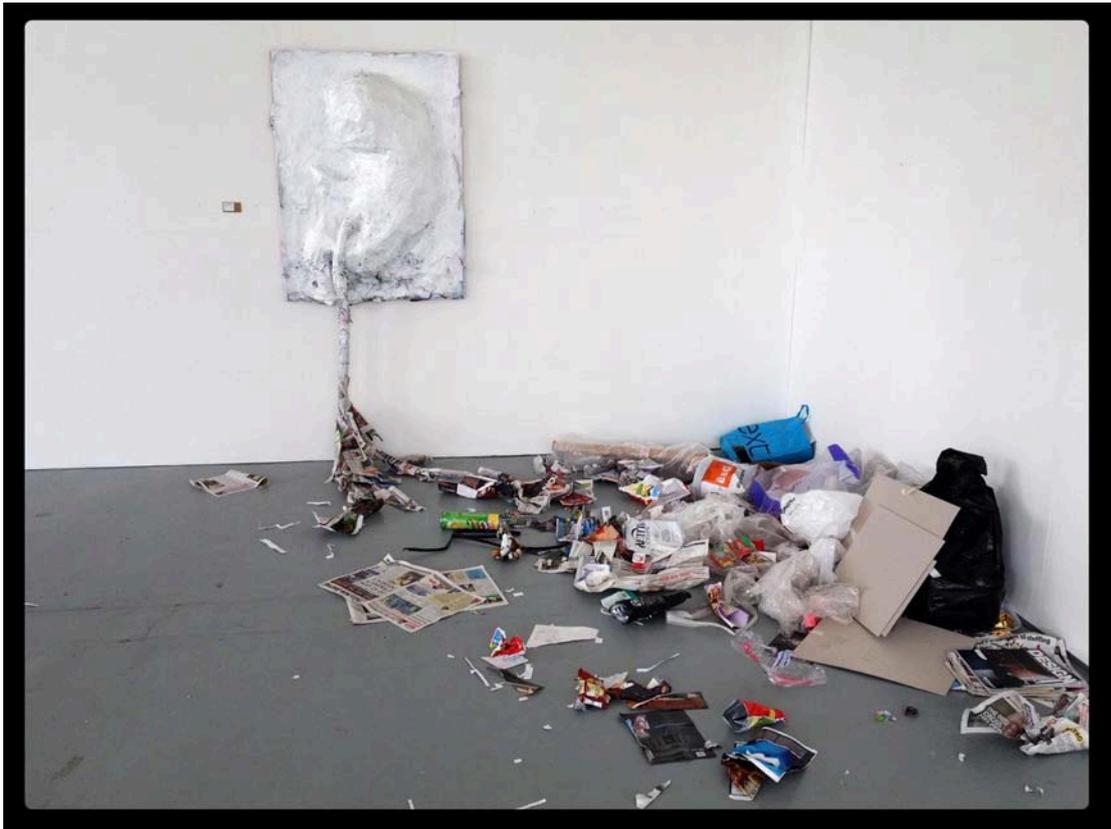


Figure 2 - Visual artist Maja Muciek's image of a human foetus made out of recyclable materials (source: <http://muciek.blogspot.co.uk>)

Introduction: Why We Need a Sociology of Waste and Recycling

In this chapter I will bring together research on urban ‘scavengers’ with literature on waste and value. By interrogating the place of waste dynamics in sociological thought and research, I aim to shift the focus to less visible politics of value. I agree with Birkbeck when he affirms, “for sociology to have any value it must treat as problematic that which is usually considered to be normal” (1979: 55). Part of this challenge demands “the search for remarkable things that are otherwise not remarked upon” (Back 2005). It also implies looking at the city “in terms of what can be destroyed and remade” (Simone 2010: 32).

The sociological attention to urban waste and its global manifestations allows us to embrace, as central to social dynamics of change, that which is considered marginal, residual, and uncontested. As Zygmunt Bauman ironically remarked, “waste is the dark, shameful secret of all production. Preferably, it would remain a secret” (Bauman 2004: 27). Martin O’Brien, a sociologist of the rubbish society, points out that “one of the political characteristics of rubbish is precisely this silencing process” (O’Brien 1999:264). Sociology, in turn, is “capable of revealing what ought socio-logically to remain masked” (Bourdieu 1993), which makes a strong case for the injunction that “a sociology of waste (...) is urgently needed” (Fagan 2002).

The social construction of value operates through use and exchange (Marx 1981), meaning and context (Saussure 2011 [1916]), judgement and time (Thompson 1979), meaning and desire (Baudrillard 1981), and action (Thompson 1979; Graeber 2001; Skeggs 2011). The various associations between human agents, social processes, and socialized materials create and destroy value in each other through dynamics mediated by power (cf O’Brien 1999).

This chapter interrogates the literature on scavengers, discussing the relationship of this body of work with the still incipient sociology of waste (Alexander and Reno 2012) in dialogue with sociological discussions on value, which are abundant but, according to Bev Skeggs, “notoriously slippery” (Skeggs 2011). It is divided in three parts, as follows.

The Structure of the Chapter

In the first part, I discuss literature on ‘scavengers’, focusing on the use of words and on how value operates through meaning. The aim is to justify my rejection of the word ‘scavenger’, which is commonly used in the referred literature. For that reason I use the word in between inverted commas and exclusively in reference to literature that employs the term. I prefer waste-pickers, or the Brazilian version *catadores* and will explain why.

In the second part, I inspect the contemporary affirmation of recycling in the ways it problematises fixed notions of waste. The aim here is to foreground the idea of value as action, and of rubbish as essential to social change.

The final part of this chapter will discuss the problem of accounting for the values created by waste recovery, when market value assumes hegemony at the global level.

From Objects to Materials: Reclamation of Waste and the Value of Listening to People

Theories of rubbish and value mostly concern objects and their social lives (Thompson 1979; Rathje and Murphy 2001 [1992]; Appadurai 1997; O’Brien 1999; Gregson 2007).

As such they are insufficient to understand the processes at stake in municipal recycling, which is by and large recovery of materials and not objects. Municipal recycling procures raw materials; it initiates a process of extraction of constitutive substances from discarded objects. Recycling implies “deforming objects before they can be reformed” (Gabrys 2011: 138). Therefore, municipal recycling poses questions related to flows vs.

friction, lines and cycles, network vs. meshwork, energy and labour, extraction vs. dissipation, and so on, more than questions related to the social lives of objects.

Furthermore, because recycling involves gathering, identifying, and selecting objects for the meticulous extraction of their constituent materials, human labour plays a very important part. Operations of assessment, choice, and disentanglement resist effective mechanisation because they constantly ask questions that machines are unable to answer. Yet, the human dimensions of recycling tend to be hidden under discourses of environmental urgency that support the need for economies of scale and therefore, highly mechanised processes. Underlying this chapter is the view that new light can be shed on the politics of waste revaluation when rubbish theory is approached through the perspective of the people who engage directly with waste materials.

People who rummage through, seeking to extract value from, what other people discard have always been part of the social fabric of cities (Medina 2007: 16). Waste-pickers, ‘scavengers’, or informal recyclers have been understood in social science from the perspective of poverty/informality/exclusion (Birkbeck 1979; Sicular 1992; Medina 2007; Coletto 2010; Rodriguez-Garavito 2006; Gutberlet 2008) and not so much in connection to theories of waste. This chapter proposes a combined reading and discussion of social theories of waste, ‘scavenging’, and value. It seeks to elicit the potential of waste-pickers to counter the monopoly of market value and material recovery in the organisation of urban recycling. The aim here is to highlight the vital importance of the human dimensions of recycling, and to open possibilities both for urban waste management and for the social theories of waste. In this chapter I am arguing for a sociology of waste that integrates a significant dialogue with waste-pickers. I start with a vignette from fieldwork, that emphasizes the importance of this dialogue.

Use-Value of Social Theory

I am at the bar of a cafe in Curitiba, having a late morning snack with catadoras Lia and Marisa.

“Ab, you are Portuguese ...”, Marisa exclaims.

The way people here interact with foreigners (and other ‘others’) never ceases to amaze me. Brazil is an immense country of more than 200 million people, who speak the same language and rarely learn a second one. Brazilians pride themselves in being particularly open to communicate with foreigners and assimilate many colonial and immigration waves that have made up the country’s population. Yet they are always able to produce a joke that would certainly be deemed xenophobic in other cultures. I have a feeling that interacting with difference through a joke, sometimes crossing the boundaries of bigotry, is a crucial ingredient in Brazil’s socio-ethnic cement.

During the time I spent in Brazil, I was often confronted with jokes in which Portuguese people are depicted as dumb. I came to select the two or three that I found funniest and least offensive to tell in these situations. And at this point, when Marisa hears that I am Portuguese, I expect just that: a joke, involving a dumb Portuguese bakery owner or small landlord, or something of the kind. Instead, she continues,

“...do you know...?”

Oh, I see, this is the other common approach: football. Cristiano Ronaldo is the name that comes more often after these words. The Portuguese football star is still the most common name that comes up as a reference from my country. It’s true that I have had a few surprises in these situations, but what comes next is completely unexpected:

“Do you know...

... a sociologist called Boaventura de Sousa Santos?”

I am dumbfounded. I feel like the dumb Portuguese in the Brazilian jokes. Of course I know Boaventura! He is one of the most important Portuguese sociologists, certainly the most well-

known worldwide. I study sociology, he is at the basis of my education as a sociologist and I love his writing and his intellectual interventions. But Marisa is a waste-picker, mother of kids, learning how to write. How can she know Boaventura?

“He was at last year’s national convention of catadores and he spoke to us. I loved his talk, and in the end we had a very nice chat. He is a very good friend of ours.”

Marisa and Lia have just given a talk themselves. It was at HSBC systems before an audience of roughly 100 people in office clothes sitting at their desks in a huge open plan. Marisa is the leader of the state’s branch of the National Movement of Catadores. I saw her speaking to audiences as diverse as the State’s Waste and Citizenship Forum, her peers, and now bank employees. Maybe she is more open to relating to a sociologist because she is used to speaking in public. Like sociologists, she faces the struggle to make sense and to put into words her own experience in the field. Social theory may have more uses than I thought.

Hearing from an almost illiterate waste-picker that a sociologist is the first name that comes to her mind as a reference to my country marked my relationship to the literature and my empirical work. It encouraged me to look at my research of the literature in a different way, which reinforced my belief that theory can help make a difference in the field and that one has to find ways of making it speak to different audiences. It also taught me to be attentive to the assumptions one makes when researching waste-pickers, but this I will leave for following sections. What I want to introduce here is an expanded view on the relevance of social science on waste, recycling and scavengers.

Urban ‘Scavengers’: Invisibility and Appearance

A man of dark complexion is pulling a handcart full of rubbish, against a derelict urban setting.

A child is rummaging through a garbage dump’s monumental mountain.

These images generally evoke “squalor, poverty and hopelessness” (Sicular 1992: 1), showing the desperate plight to “survive in the midst of unspeakable tragedy” (Alexander and Reno 2012: 19). It is presumed that living off the scraps of a poor city is the lowliest imaginable kind of activity, a desperate situation often intersecting the realms of criminality or, at least, parasitism (Sicular 1992: 1). Those who only face the Global South’s urban ‘scavengers’ through these visual images or through fleeting physical encounters may be compelled to look away. Their bodies are trained to squirm or express disgust in other ways at such abject sensorial stimuli. This is a “defense mechanism of the wider culture and one that lives through” those bodies, as Rhys-Taylor puts it in relation to disgust of certain food practices in East London (2013: 234). As a result of this kind of rejection, many in cities of the Global South who enjoy more comfortable socioeconomic conditions tend to be unaware of the constant presence of waste-pickers on the streets, “as if they were a part of the urban environment, or perhaps a feature that, despite its high visibility, they thought better to ignore” (Coletto 2010: 55).

The urge to ‘look away from’ and the incapacity to ‘see’ waste-pickers beyond formatted abject images are homologically related to the constitution of rubbish as a sociological category. According to Thompson:

“In relation to rubbish we can distinguish two forms of blindness: there are those things or areas which *we cannot see* (though *those with an entirely different ‘game’* may be able to see them), and there are those things or areas which *we conspire not to see*. When these latter intrude, and we cannot help but see them, we banish them from view (or alternatively, neutralize their visibility) by assigning them to a unique

cross-cutting cultural category which may be labelled ‘*rubbish*’ ”. (Thompson 1979: 88 my emphasis)

Thompson’s *Rubbish Theory* is probably the most classic and (at least partially) read work of social science dedicated to waste. The book shows how people operate valuations, especially when we are not aware of doing it. Those actions most people unwarily perform include discarding, jettisoning, hiding, parting with, and distancing from things and other people. Although Gregson (2007) argues that people’s practices of discarding their own possessions often involve painful emotional divestment, it is also true that in relation to other people and other peoples’ things there are constant processes of devaluation at play. Because they are associated with actions such as ridding and looking away, these processes tend to render things invisible and to render themselves invisible. Thus these processes of devaluation are more easily naturalised through symbolic violence, in the sense defined by Pierre Bourdieu and Claude Passeron – a cultural arbitrary imposed as universal (Bourdieu and Passeron 1970).

The heuristic value of working and researching with scavengers lies in the access to worldviews that result from “an entirely different ‘game’ ”, in the possibility to be “able to see” what others conspire to render invisible (cf. emphasis in extract quoted above). My interest in a sociological dialogue with waste-pickers aims at seeing through obscuring assumptions and attaining an understanding of rubbish as a result of “socially defined” boundaries (Thompson 1979: 11). What follows is a discussion of two main assumptions that are usually present in initial approaches to the topic. One of those assumptions results from a historic fallacy; the other ensues from a reductive focus on economic dimensions.

Assumption one: ‘Scavengers are a manifestation of underdevelopment. They are a prevalent phenomenon in Europe’s past and in the present Global South’

The denomination ‘scavengers’ is applied to historical characters such as dustmen, dustwomen, rag-pickers, and rag and bone men and women from pre and early modern Europe, in the same way as it refers to the contingent of collectors of recyclables in many of the present expanding metropolises of the Global South. Dependency theorists have argued against this sort of mythological analyses for more than half a century.

Starting in the 1960s and 1970s several social scientists (Furtado 2006 [1959]; Cardoso 1973; Santos 1979; Gunder-Frank 1979), some of them originally from the Southern hemisphere themselves, proposed a mind-shifting theory for understanding global development. They were writing against a dominant view on development, which can be summarized as follows. The “third world” and the “developed world” were on a single course of progress. Poorer countries were behind on that pathway and isolated from development. They were simply lacking the mechanisms that were in place in the developed countries in order to shorten the lag and catch up with them. Development depended on support from richer countries accompanied by lowering barriers to free trade.

Dependency theory has attacked this perspective on different fronts. Its main thesis was that the world was already integrated; therefore increasing free trade without attacking the unequal flows of capital and resources would just accentuate the unbalance between central and peripheral countries. There is no such thing as developed and developing countries. There is an integrated world-system with a centre that dominates over a periphery. As Brazilian geographer Milton Santos notes:

“All present states are modern. No one can keep out of international life, which demands, even from the poorest and smallest, adaptation to a certain number of new conditions.” (Santos 1979: 162)

Santos transposed the argument of dependency theory to the urban space of third world countries. As he sought to show, the cities in the “third world countries” integrate, in a common space, two circuits of urban economy, just like the world-system integrates, in a contemporary system of exchange, central and peripheral states. Waste-pickers as well as other informal workers belong to a lower and dependent circuit that is nevertheless completely contemporary of the rest of the city and of a globalised world. They are not a pre-modern reality, but a specific product of modern transforming conditions, whose particular dynamics need to be captured.

In many sectors, dependency theory seems to have been forgotten, buried under two waves of neo-liberal theory and policy. Yet, the interdependency of the world system has been dramatically accentuated, including in the increasingly important global transactions in waste:

“In the first decade of the twenty-first century, the largest export from the world’s biggest economy (the United States) to the next-biggest economy (China) was scrap.” (Alexander and Reno 2012: 4)

Furthermore, there is also in the ‘developed’ Global North a prevalence of different groups of people who live off picking from the city’s discards. According to different research reports:

- there are “scroungers, dumpster-divers, trash pickers and street scavengers” in Austin (Texas) (Ferrell 2006);

- “alley-way entrepreneurs” operate in the streets of Los Angeles, where “trash is a medium of exchange between income groups... a privatized form of welfare” (Chase 2000: 185);
- Vancouver has “binners” (Tremblay 2001);
- London harbours communities of ‘skippers’ or ‘freegans’ (Calafate-Faria 2006);
and
- a sanitary landfill in Michigan is the site for diverse scavenging activities by their workers (Reno 2009).

Histories of waste and ‘scavengers’ help us to understand the processes of devaluation in national, global, and urban histories. The history of the “San Francisco Scavengers” (Perry 1978) - the Italian-American migrants who, with their cooperatives of waste collection, initiated waste management in the city - and studies of London’s ash collectors, dustmen, and dustwomen (Talbot 1920) provide material for the understanding of how waste has been revalued in the beginning of the 20th century, by the initiative of the urban poor, in countries that have since adopted modern capital-intensive systems of urban collection and recycling. Conversely, work on transitional processes such as the passage from ‘socialism’ to ‘capitalism’ in Eastern Europe has revealed the invisible continuities between several “waste regimes” that transgress the clear-cut historical borders between pre-capitalist and post-socialist regimes (Gille 2007). Such is the argument of Zsuzsa Gille, which contradicts other visions of this transition. An example of the latter is Desrochers’ take on the Victorian entrepreneurship in secondary markets, to hail the “green invisible hand of the market” and attack state interventions in recycling programs (Desrochoir 2007; 2008; 2009). Desrochers often

presents precisely Eastern Europe as an example of how excessive state regulation is more wasteful than liberal economic politics.

The historical fallacy denounced by dependency theorists, and its manifestations in contemporary debates on ‘scavengers’ and on transitions from ‘socialist’ to ‘capitalist’ political regimes, show how the construction of historical narratives is a selective process that produces its own arbitrary discards. As Bauman wrote in *Wasted Lives*:

“Stories are like searchlights and spotlights; they brighten up parts of the stage while leaving the rest in darkness. (...) To know is to choose. In the factory of knowledge, the product is separated from waste, and it is the vision of the prospective clients, of their needs or their desires, that decides which is which. The factory of knowledge is incomplete without waste disposal sites.” (Bauman 2004: 17,18)

Through processes of selection and exclusion, an arbitrary idea is reproduced as truth: the idea that we can draw, on the contemporary globalised world, a historical line between *developing* and *developed* nations, and that a group of people in another part of the world may be conceptualised as a ghostly feature of Europe’s past. The socio-epistemological processes, from which this idea results, discard ‘scavengers’ as pre-development entities.

The implications of this assumption in social science can be divided in three. One of them, arising from what we might call a classical developmentalist perspective, looks at the conditions of the urban poor in the Global South with disgust and proposes interventions that may help free scavengers from their ‘underdeveloped’ condition. It proposes that they be disciplined and made employees of a formalised process of production (e.g. Sicular 1992). Authors like Wilson (2006: 631) and Scneiberg et al

(2006) have warned of the objectifying dangers of these proposals. Another implication is on the perspectives that looks at scavengers as evidence that the Global South is not entirely conquered by the capitalist mode of production and therefore is fertile ground for building alternative routes of development. 'Scavengers' in this case, rather than being a class of the past, embody the possibility of resistance against full development of the environmentally unjust industrialisation of the Global North (Medina 2007). Finally, and crucially, the devaluation of waste-pickers as embodied underdevelopment makes them more vulnerable to being excluded from political discussions on urban change.

Assumption two: 'Urban scavengers form an extremely poor and over-exploited group; their conditions will improve if their labour is recognised and better paid'

In other words, *catadores* are exploited because the use-value of their work for the city and the nation is not converted in correspondent exchange-value. Therefore *catadores* need to struggle for a better position in the exchange networks that compose the recycling markets. It follows that *scavengers'* social-environmental contribution must be emphasised and the ways in which they are excluded from rights to the city (Fahmi and Sutton 2006), rights to citizenship (Dias 2002), and labour rights (Bosi 2008; Carvalho 2006) must be exposed. This has been the stance taken by recent research conducted on *catadores* in Brazil.

It is true that economic exploitation is an essential process in the articulation of *catadores* with markets. It is also true that waste-pickers in different countries have more or less successfully brandished different sorts of socially recognised values in order to boost the social perception of their work. Through highlighting their 'green values' (see Fredericks 2012), their contribution to social justice (see Gonçalves 2003), and the lowering of labour costs to the city's waste management (see Sicular 1992 and Wilson 2006, 2009), *catadores* have strategically conducted fights for state recognition. However, it seems to

me that the sociology of waste can be more than just an instrument of immediate political lobbying for the improvement of waste-pickers' economic position. In fact it can even possibly serve this purpose in a more effective way if it goes a step further in its questioning of the social reality.

My main point is that exploitation does not operate only at the level of economic transactions and the informal organisation of production. It also results from the social definition of values (Skeggs 1997; 2011). The crucial process here is the imposition of a system of valuation and the narrowing of a self-evident productive process of value recovery. The coming chapters of this thesis will detail these different levels of exploitation in the field. For now, I am reviewing what has been written about it, seeking to connect literatures on 'scavengers' with theories of waste. The aim is to understand what is specific and common about people who live off of the city's leftovers, beyond assumed valuations of underdevelopment and extreme poverty. Recycling elicits interesting questions about the creation of market value in relation to environmental value. But it also opens possibilities of looking at other sources and kinds of value.

In order to understand these processes of valuation it is necessary to develop a "social theory of waste" (Gille 2007), which contributes to the understanding of how "waste and society are mutually constituted" (ibid: 13). The dynamics of waste production, both at material and cultural levels, are critical to the understanding of social change within an array of possible historical developments. People who work with waste are at a critical point in those dynamics, because they are at a position to make choices, enact selections, and open new routes to recovery. They are not just struggling to be integrated in the circuits that they are feed; they can also play a part in their reconfiguration.

‘Scavenging’ Studies

As it may have been perceptible from the previous pages, there is an extensive production of texts on ‘scavengers’. Yet this literature is, in its vast majority, under the form of discrete NGO and scholarly articles, numerous conference presentations, or book chapters. The blurred boundary between activist and scholar texts, as well as its fragmentary character, have prevented the full development of a necessary intellectual debate on the sociological place of waste and people surviving on picking from it.

The inclusion of chapters in collected editions hints to its sociological positioning, although a more systematic integration in social theoretical debates is yet to be achieved. For example, Birkbeck’s text on Cali’s “vultures” (Birkbeck 1979) is included in a collection on casual work and urban poverty (Bromley et al 1979). Coletto’s chapter on Porto Alegre’s *catadores* is part of his own compendium on Brazil’s informal work (Coletto 2010). Closer to the purposes of the present text, Millar’s article on Rio’s dump *catadores* (Millar 2012) is part of an edited volume of ethnographic accounts concerned with labour in different *Economies of Recycling* across the globe (Alexander and Reno eds 2012). Finally, Rodriguez-Garavito’s article on “cooperatives of informal garbage pickers in Colombia” appears in a volume exploring lessons from the modes of production from the Global South (Santos 2006).

As for books, written in English, entirely dedicated to waste-pickers, including ethnography and systematic theoretical analysis, they are rare. I have referred above to one of them: the acclaimed ethnography of ‘scavenging’ in Texas by Jeff Ferrell (Ferrell 2006). Ferrell is a criminologist and his account is ethnographic, albeit in a non-academic form. The author lived off “scrounging” for a period of eight months, in between academic jobs. Therefore, his ethnographic immersion in the field is deep and his identification with the other research participants is total. Ferrell hails the activity as a

form of productive subversion of the hyper regulated city of consumers. His aims are explicitly political, in so far as he portrays rummaging through, and living off the city's waste as resistance to the city's powers.

The first book published in English exclusively about the 'scavengers' of the Global South is, to my knowledge, Sicular's *Scavengers, Recyclers and Solutions for Solid Waste Management in Indonesia* (1992). It attempts to initiate a significant sociological debate. The author takes on Chris Birkbeck's analysis of 'scavengers' in a dump of Cali in which they are conceptualised as "self-employed proletarians in an informal factory" (Birkbeck 1978). The Colombian dump was understood as a shop floor where all the usual mechanisms of industrial exploitation of labour take place. Daniel Sicular counter-argues by saying that the capitalist relations of production are defined by the control over the means and process of production. In that sense, scavengers cannot be understood as industrial capitalist proletarians, because they manage their own pace and processes of work. Instead, Sicular conceptualises scavengers as peasants engaged in hunter-gathering economic activity. The fact that their labour process is pre-capitalist is, for Sicular, the most relevant feature. The author acknowledges the exploitive articulation with the capitalist mode of production but sees it as resulting from processes of exchange and dependency, such as the ones described in dependency theory (Sicular 1992).

Since the publication of "Scavengers, Recyclers..." various scholarly articles and published research took up one of either Sicular's or Birkbeck's perspectives. The structural articulation between informal work and the capitalist industrial system seems to be the main concern, when it comes to framing social research on waste-pickers. The main problem was the lack of new proposals that would break the dichotomy.

Fifteen years after the publication of Sicular's book, Medina's *The World's Scavengers* (2007) took up the debate. The book presents a series of six case studies – from Mexico,

Colombia, Argentina, Philippines, India, and Egypt - against a theoretical and methodological discussion with the objective of making the case for the revaluation of the work of scavengers. Medina's theoretical model departs from the perspectives of Birkbeck and Sicular. Medina rejects both of them for their internal contradictions and proposes his own model, which encompasses an analysis of the demand and the supply sides.

Birkbeck and Sicular concentrate on a part of the demand for materials. As Medina notes, scavenging is more than just the articulation with the capitalist mode of production through raw-material recovery. Scavenging includes also collecting "for self-consumption, for artisan activities and for agricultural activities" (Medina 2007: 260). Apart from self-consumption, they all involve market transactions. The conditions for demand are thus more complex than both the model of the industrial factory and the model of internal unequal development. Then on the supply side, Medina discusses the reasons that lead a large proportion of the South's urban poor to resort to this kind of work. Medina concludes that chronic poverty is a sufficient condition for the persistence of scavenging. The author conceives the activity as an adaptive response to scarcity, which can occur in any economic system, be it capitalist or non-capitalist.

A limited perspective on value marks all three perspectives. In Birkbeck's scavenger-proletarian, in Sicular's urban peasant hunter-gatherer, and in Medina's supply-demand model, scavenging is conceptualised as relevant only in its economic dimensions.

Concomitantly, a static notion of value and structure is assumed. All perspectives present somewhat rigid mappings of a conceptual articulation between informal labour and capitalist production. They do not consider the possibility that what characterises waste-pickers is exactly the resistance to rigid conceptualisations. In many ways, waste-pickers personify the vision that value ensues from action rather than from qualities of

objects or structures (Graeber 2001: 61). We will have a chance to develop the discussion of different theories of value. But before that I want to introduce those debates in reference to the ways waste-pickers are valued by language and meaning.

‘Scavengers’ or *Catadores*? Politics of Value in Etymology and Semantics

Terms such as ‘waste’, ‘rubbish’, ‘junk’, ‘trash’, or ‘recyclable’ are used to express judgement, and are often presented as undisputable. Instead, they emerge from politics of value. A large part of the urban poor in the Global South engage in those politics as a matter of course. For them scavenging, picking, sorting, classifying, bargaining, recycling, struggling for rights, organising in cooperative projects, and fighting for social recognition are forms of contesting or exercising agency over the value of things and people. As David Graeber argued, the anthropological concept of value results from “the way people represent the importance of their actions to themselves” and from the way they seek recognition by others (Graeber 2001: 45). I want to argue in what follows that the use of words is central to this political struggle. In particular I discuss the use in the literature of the term ‘scavenger’, which is mostly imposed upon, rather than taken up by the people it is supposed to name.

In nature, scavengers are those living beings that feed, partly or exclusively, on biomaterial that is already dead. A sense of unease arises from ideating vultures, maggots, fungi, and other creatures thriving on dead bodies and rotten vegetables. Scientific knowledge, nevertheless, tells us that those beings operate a ‘resurrection miracle’ of sorts, by transforming dead bio matter into living cells. By eating and digesting organisms in decay, scavengers bring that matter back into the food cycle. They are responsible for mending the thorn lines of life, thus closing the cycles that allow death to be transitory. The continuation of life on earth depends on their labour.

Recovering a text from Darwin on the importance of worms for the reproduction of life, Hawkins makes this point in *Ethics of Waste* (Hawkins, 2005: 124). The book features a study on worm cultures and attitudes towards composting. The author argues that human avoidance of waste, as of scavengers, is part of a more general emotional repulsion towards dealing with all kinds of loss and separation. This repulsion “inhibits the generative possibilities of death and loss that worms exemplify with such force” (ibid: 119). Equally, according to Mary Douglas, classical anthropological literature associates certain rituals involving human excrement with “flight from reality, a refusal to face loss, separation and death” (Douglas 2002 [1966]: 146).

Social attitudes towards urban scavengers⁷, as towards all people who work with other people’s waste, are affected by this tension between emotional repulsion or pity and rational admiration or recognition. Bauman voices this contradiction thus:

“Rubbish collectors are the unsung heroes of modernity. Day in day out they refresh and make salient again the borderline between normality and pathology, health and illness, the desirable and the repulsive, the accepted and the rejected, the *comme il faut* and *comme il faut pas*, the inside and the outside of the human universe... All boundaries beget ambivalence, but this one is exceptionally fertile. However hard one tries, the frontier separating the useful product from waste is a grey zone: a kingdom of underdefinition, uncertainty – and danger.”
(Bauman 2004: 28)

To acknowledge ‘scavengers’ (both in the biological and in the social worlds) is to acknowledge how our lives and the economic systems on which we rely are sustained by a fragile balance kept by their work. But to apply the term ‘scavenger’ to humans is, I

⁷ Origins of the word scavenger: mid 16th century: alteration of earlier *scavager*, from Anglo-Norman French *scawager*, from Old Northern French *escauwer* ‘inspect’, from Flemish *scauwen* ‘to show’. The term originally denoted an officer who collected *scavage*, a toll on foreign merchants’ goods offered for sale in a town, later a person who kept the streets clean (Oxford dictionaries)

argue, to use a metaphor from the animal world to devalue a group of workers. I will explain my point in the following paragraphs.

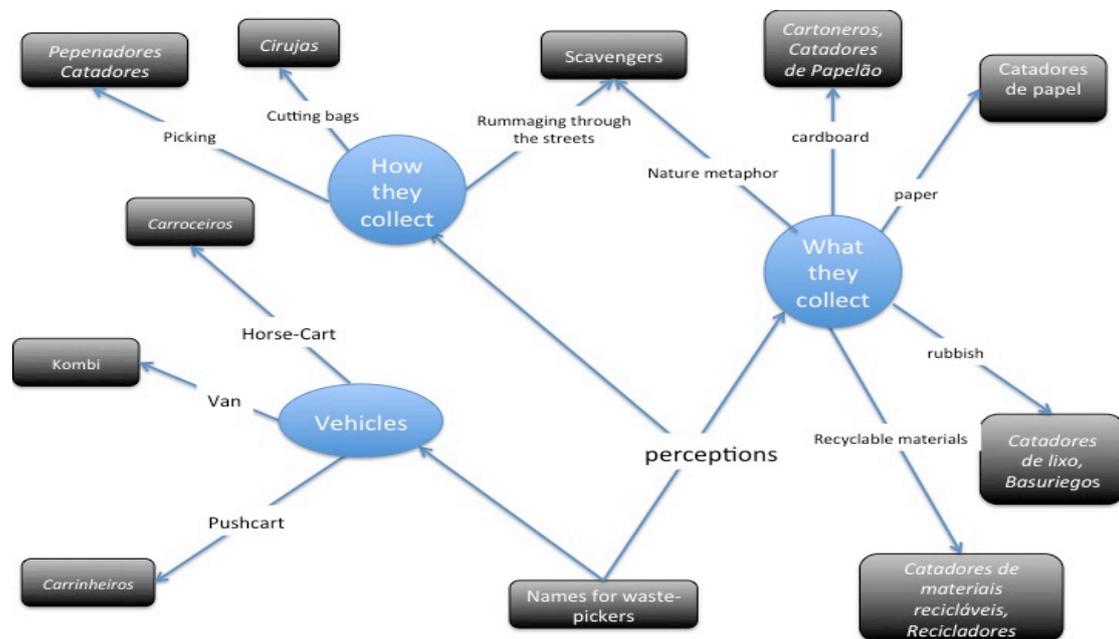


Figure 3 – Semantic varieties in names used in Latin America for waste-pickers

The application of the word ‘scavenger’ to waste-pickers is specifically Anglo-Saxon.

The only literal translation of the word in Portuguese would be *necrófago* (from *necro*+*fagus* = ‘dead-eater’). Instead, in Portuguese and in Spanish, the words used to name people who rummage through waste, mostly mean ‘picker’, as is the case of the word *pepenador*, which derives from the Aztec language (thus establishing a connection with an activity of pre-colonial Amerindians, other than with a European past) (Medina 2007: 129).

Picker is also the meaning of the Portuguese word *catador* (from the verb *catar* which means ‘to pick’ as in ‘to pick lice’). Sometimes the vehicle used for collection determines the denomination, as in *carrinheiro* (from *carrinho*- handcart) or *carroceiro* (from *carroça* – horse-cart). *Catador* is sometimes complemented by a specification of the object, as in *catador -de lixo* (‘of rubbish’), *-de papel* (‘of paper’), *-de latinha* (‘of aluminium cans’), and *-de recicláveis* (of recyclables), which is the most common (cf. chart above). The latter is the

official denomination as expressed in the law. The first one (*catador de lixo*) is the most commonly used in Brazil, except by the *catadores* themselves.

This rejection happens because people who work with discarded materials rarely use the word *lixo* (rubbish or garbage). The Egyptian Zaballeen (from Zaball- rubbish) and the Colombian *basurios* (from *basura* – also rubbish) display that unwanted association.

Whilst Egypt appears to be an exception, as the word is still used (Fahmi and Sutton 2010), Colombians have managed to reject the denomination because of its derogatory character. They did the same with the word *gallinazo* (meaning vulture) (Medina 2007: 155). The word was commonly used to refer to the dump pickers, who always share their working space with the scavenging birds. We saw above that Birkbeck's text refers to "the vultures of Cali" in the title of his 1979 text about dump pickers. According to Medina both *gallinazo* and *basurioso* have been successfully replaced by the word *recicladores* (recyclers), which is the choice of the very people to whom the word refers to since the 1980s (ibid). In Argentina the most commonly used word is *cartoneros* ('cardboarders'). Another common term is *cirujas* (derived from the word surgeon) but its association with the destruction of rubbish bags through opening them with a knife is not one that would fit all waste-pickers (Schamber 2008). In a piece of legislation that in 2002 lifted the ban on waste picking, making the activity legal, the city of Buenos Aires also imposed a new classification, which is still somehow alien to the social environment. The official designation is thence *recuperadores*, meaning 'recuperators' (Schamber 2008).

With these examples, I hope to have shown that the choice of terms to denominate waste-pickers is not innocuous, and in particular that the metaphor in the word 'scavenger' may be derogatory. Sicular assumes that it is the biological aspect, amongst the word's semantic complexity, that is conveyed when 'scavenger' is used to name his object of study (Sicular 1992: 16 – footnote).

Due to the processes of valuation at play in the use of the word scavengers by social scientists, I opt for not applying it to my case study. I prefer the use of the non-translated *catador* (as it highlights the particularities of the Brazilian case) or the more general waste-picker.

Waste-picker or urban recycler, collector, etc. are words that denote action rather than a quality that might be intrinsic to the person, in the same way as scavenger is intrinsic of a class of animals. Yet, there is a wider body of literature that has used the word. With its use, it has emphasised some core characteristic of a set of activities performed by diverse sets of people in different historic and geo-social contexts.

So if we abandon the word scavenger, how can we make sense of what connects all these people's activities? There is clearly some commonality between the people who retrieve different sorts of value from materials and objects that have been used before and have no property rights through the acts of collecting and appropriating them. To the wider group of people that develop such activities more or less regularly we can simply ascribe the term waste-pickers, although the field seems to be open to a more inspired conceptual denomination.

It is not my intention here to develop a long discussion about words and representation, for which I do not have enough expertise. However, researching, reading, and writing in Portuguese, English, and Spanish has presented challenging translation questions, and has given me some insights into different constructions of meaning, upon which I feel it is important to reflect. This reflection is crucial because, as I mentioned above, meaning and action are important dimensions of the sociological conceptualisation of value. Next I discuss the sociological meanings of recycling, starting precisely with a discussion on the richness of the semantic field of rubbish.

“Rubbish that isn’t Rubbish”: Recycling as Reconfiguration of Values

Whilst, as we have seen, social research in English unifies the diverse evaluative and descriptive processes at play in other languages under the single word ‘scavenger’, the English language has many different words that directly translate into the Portuguese word *lixo*. William Rathje, the archaeologist of rubbish who brought ‘garbology’ into academia, proposed a structure for this multitude of terms:

“Several words for the things that we throw away – “garbage”, “trash”, “refuse” “rubbish” - are used synonymously in casual speech but in fact have different meanings. Trash refers specifically to discards that are at least theoretically dry – newspapers, boxes, cans and so on. Garbage refers technically to wet discards – food remains, yard waste and offal⁸⁸. Refuse is an inclusive term for both the wet discards and the dry. Rubbish is even more inclusive: it refers to all refuse plus construction and demolition debris... We will frequently use “garbage” in this book to refer to the totality of human discards because it is the word used most naturally in ordinary speech.” (Rathje and Murphy 2001: 9 footnote)

I am not convinced that this list of definitions is robust. To begin with, Rathje doesn’t provide references for his definitions. It all seems to arise from his own sensibility. At a pure level of reasoning, there are grounds for questioning. For example, to me, the use in the literature of ‘rubbish’ and ‘garbage’ seem more like a British/ North American variation of the same word rather than two technically distinguishable concepts. Moreover, the author settles for the indiscriminate use of ‘garbage’ at the end of his initial definition and then ends up using ‘trash’, ‘garbage’, and ‘refuse’ throughout the book without abiding by his own definition of terms (Rathje 2001: e.g. 35; 135).

⁸⁸ Like Murphy and Rathjes, Sicular is also careful to define ‘garbage’ “technically”. For him the word refers only to the organic component of the discards (Sicular 1985: 18).

Rathje’s list also misses two words that I consider crucial for understanding the processes of value attribution at play here. These words are ‘discard’ and ‘waste’. Like ‘refuse’, these two names double up as verbs, rather than adjectives. They classify material entities according to actions, which imply judgement on the value of things, but also on the value of people’s actions. The acts of refusing, wasting, and discarding are implied in the qualification of certain objects as refuse, waste, and discards. In each use of these words throughout this thesis I will seek to bear in mind the nuances of meaning involved in the list of terms (see chart below).



Figure 4 – Value, action and meaning in the semantic field of rubbish in Portuguese and in English language. Notes: a) Words also used as adjectives to qualify people and things .v) Words also used as verbs to describe actions related with rubbish making.

Almost all the words for divested and devaluated materials discussed here could find equivalents in the Portuguese language to convey the subtlety of their differences. In

their common use, however, all of them are most likely translated as *lixo*. And more relevantly, *lixo* is the only one that is also used as a metaphorical adjective (apart from the very strong *escória*=scum). The chart below details those connections and differences between words in the two languages. Note the words that are used metaphorically as qualifying adjectives for people and things and the ones that are also verbal forms. This is important because it signals the uses of concepts related to rubbish as forms of devaluation and as indicative of actions.

The play with the double meaning of *lixo* as name and as adjective is at the crux of the most famous municipal recycling campaign in Brazil: Curitiba's '*Lixo que não é Lixo*' - 'Rubbish that isn't Rubbish', or "Garbage that isn't Garbage" (Irazabal 2005: 106; Schwartz 2001 131). The campaign was devised in 1989 as part of one of the world's first citywide municipal recycling systems. Twenty years later it is still the way most people in the city refer to the recycling bins or the recycling collection. The success of the campaign lies in the disruption of the concept of rubbish through the disjunction of the name *lixo* from the adjective *lixo*. Some materials that are rubbish – because you discard them - are not rubbish - because not everyone refuses them. By sorting recyclables, one can discard and refuse without wasting.

Politics of Meaning

I want to conclude this section with the idea that the use of words in this field reflects the fuzziness and possibilities of redefinition, which characterize the very concepts of waste, scavenging, and recycling. This means that the field is open. In language as in the material world, the value attributed to people's discards is 'up for grabs'. Sociology can and must step up to fill this void and conduct a process of revaluation that includes attention to the processes of creation and destruction of value through language.

In the words applied to discarded materials, it is important to distinguish two groups: the names that are also used as adjectives, and the names that are adaptations from verbs. This distinction calls our attention to value as both ontological judgement and evaluation of action. In terms of the words used for waste-pickers, the politics of value becomes more discernible. Attention to self- and hetero-denomination as crucial elements of the wider politics of value enjoining waste-pickers is essential to this endeavour.

Recycling, inasmuch as it proposes a reconfiguration of the processes of discarding, presents an opportunity to rethink the politics of value contained in our daily actions, including the use of language. The following section explores what recycling has opened up in terms of a reconfiguration of the systems through which we divide the world between waste and value.

Recycling Value

The affirmation of recycling as an indispensable component of waste management, making residents co-responsible for it, has disrupted stable categories. On the one hand, recycling organised by the municipality suppresses debates around waste-pickers and other potential alternatives for waste revaluation. On the other, it opens space for the redefinition of what people conceive as rubbish.

Waste as a liminal category

Thompson's Rubbish Theory (1979) and Appadurai's *The Social Life of Things* (1986) have been widely used in social science for its relevance to understand waste as a transitory phase rather than end of life. For Thompson, in particular, there is a productive element in the passage through the rubbish category, which allows objects to return to the world of exchanges as "durables", which are objects that increase their value with the passage of time. Temporarily released from rigid structures of order, rubbish is a rich sociological terrain for politics of value. The passage through rubbish status opens space for objects and systems of knowledge to be reconfigured in their functioning as "structures of control over time and space" (Thompson 1978: 52).

It must be noted here that both Appadurai and Thompson equate value with exchange-value and that their biographies of things are in many ways compliant with the primacy of market circulation that dominates economic life. The idea is that throughout their life histories, objects pass through different stages according to their "exchangeability for other thing in its socially relevant future" (Appadurai 1986, 13). In any case their influence in the social theory occupied with materiality opens up possibilities for reconfiguration of dominant categories. This is particularly so in the 'non-commodity' (ibid) or 'rubbish' (Thompson 1979) states. Following this exercise of critical reconfiguration of the notion of waste one might be led to consider processes of

rubbish-making as mere symbolic operations. That is why there is the need to reiterate waste's duality.

Gille (2007) argues that waste is liminal. Its issues often unfold “in no man's land between several dichotomies”, such as efficiency/inefficiency, usefulness/uselessness, order/disorder, gain/loss, clean/dirty, alive/dead, fertile/sterile (Gille 2007: 23; 20).

Recycling opens up the space for reconfiguring those dichotomies. People who live off waste don't exercise much control over that kind of reconfiguration of categories. But for them, the hierarchical order of the dichotomies outlined by Gille is the opposite of what it is for most people. For waste-pickers, waste provides gains, waste has to be ordered, waste is useful and it is not merely perceived as dirt that needs to be jettisoned. Waste provides the fertile ground that keeps waste-pickers alive.

For those who tend to look away from rubbish, recycling re-presents waste in its liminal capacity. The moments when the consumer hesitates before the various bins – the recycling, the general waste, the compost, etc. - open the space for reevaluating assumptions, thus disrupting the dichotomy waste/value. It also challenges another dichotomy typical of modernity: that which opposes production to consumption. Post-consumer waste may become pre-production material, yet this moment has more than strict economic consequences.

Recycling is part of a more general cultural transformation that redeems different sorts of waste from their social foreclosure. Josh Reno and Catherine Alexander note that the post-first-world-war rupture between traditional and modern societies was accompanied by “an intense interest by *avant-garde* artists and writers in the idea of reconfiguration rather than evolutionary development” (Alexander and Reno 2012: 2). In early twenty-first century art, the reconfiguration of objects, be they waste materials or previous art

works, is a recurrent theme. This is part of a change in cultural perspectives on material revaluation.

Thus, the municipal recycling campaigns, with which we became familiar, are in fact part of a recent cultural change. But they have themselves changed considerably in its recent history. I will now briefly present how my research in the archives of a leading trade publication in the recycling sector revealed that evolution.

Secondary Markets and the Common Good

The values used to promote recycling have changed in recent times. Throughout the twentieth century, materials recycling appeared under different means, under different names, and accompanied by various ideological justifications. The archives of *Materials Recycling Weekly*, a trade magazine published in England since 1912, provide insights to this evolution. By researching these archives in 2009 I identified several stages in the dominant uses of common good values. In the first stage, the magazine was called *Waste Trade World* and was essentially concerned with information and copy about human and animal wastes such as hair, bones, fats, and others, as well as with secondary metals and rags-to-paper trades⁹. From the beginning, the dominant moral discourse concerning common good, which appears among the industrial concerns, is the importance of labour. These highly labour-intensive industries recurrently sought to highlight their contribution to employment, as an instrument of public affirmation and political lobbying.

In the periods during and after WWII, the emphasis shifts to contribution to the national efforts through resource efficiency. An emphasis in salvaging military equipment such as clothes metals and heavy machinery becomes increasingly present in

⁹ Metal recycling was always present throughout its history.

this phase. The name of the publication changes to *Waste Trade World and the Iron and Steel Scrap Review* (1939-1967) and then to *Materials Reclamation Weekly* (1968-1994).

Finally, since the 1970s, the word ‘recycling’ started being used widely in the pages of the journal in parallel with the slow dissemination of the “producer responsibility” legislation and the “polluter pays principle”. The magazine starts focusing on the increasingly complex environmental legislation and how to take advantage of it. The affirmation of the market solutions to the waste problem culminates with the last name change in 1994 to the present *Material Recycling Weekly*. In that year the magazine started publishing reference price information on secondary materials other than metals.

The tables with the prices of materials became one of the most recognised features of the publication to this day. MRW’s price information is now used throughout the world as guide for exchanges in secondary materials. Price information is an example of the performative character of economic knowledge production (Mackenzie 2006; Callon 2006). MRW researches price information of waste markets in the same way as say, LIBOR researches the interest rates of loans between banks: by calling a selected number of operators in the market to ask them what was the price agreed in their daily transactions (cf Mackenzie 2009). The information thus gathered, in the forms of figures and tables assumes normative dimensions to other transactions as it is disseminated throughout the world. The rise of environmental value coincides with a development of market devices that convert it in exchange-value. Common good is thus re-constituted at the level of individual micro-interaction. Recycling as the responsibility of the household is part of a general trend to engage political action at private micro-levels (cf MacBride 2012).

With all these discussion on words, concepts and liminal categories, one may be tempted to think of waste as a purely symbolic process, and recycling as a sort of metaphysical

constructionist process that can be harnessed by the mere conjunction of human wills. Notwithstanding the fact that words may be seen by sociology as materials that can act upon people (Fraser 2012) they are not enough to understand what is at stake with waste. This is why one needs to include here a sort of realist counter-weight, for waste, more than a conceptual category, socially constructed, is in its materiality particularly relevant to sociological analyses and indeed for recent debates around the “material turn in sociology” (Michaels 2012). The following section focuses on waste as a hybrid – both social and material – entity.

Waste’s Hybridity

As I’ve noted above, waste issues tend to entail processes of invisibility and forgetting. Thus, it is no surprise that throughout history “recycling is repeatedly ‘discovered’ with little reference to the earlier mass organised collection and repurposing systems” (Alexander and Reno 2012:2). In different periods the focus on the value of recycling has shifted between economic, health, ethic, social, national, and environmental concerns. This results from political, cultural, and historical transformations that amplify changes at the level of the social liminality of waste. But the different perspectives on recycling also arise from differences in the quantity and quality of waste that we produce. Gille finds “sorely problematic [...] in the anthropological and cultural studies scholarship [...] (...) the dematerialisation of waste” (Gille 2007:24). By “dematerialisation”, Gille means that social science tends to exacerbate the abstract conceptual dimensions of waste, often failing to tackle, from a sociological standpoint, waste’s particular materiality. For the author, waste is in fact a “hybrid in the sense of having dual determination, social and material” (ibid: 28). Therefore, “we should not only treat waste as always material but also theorise what its material agency means” (ibid:24). What is flagged up here is that waste, as a conglomeration of human divested materials, does not

become innocuous even if left abandoned. Regardless of human agency, it has the capacity to ‘bite back’, be it by sheer cumulative space invasion, circulation through food chains, or by rotting and infecting water supplies, setting fires, exploding, polluting the atmosphere, and so on. This materiality is inescapable, for example, when one compares the general composition of the urban waste streams in the two hemispheres of global inequality. In the global South waste streams tend to have a higher proportion of organics and thus be wetter than those in the Global North, which have more recyclables, and are also more valuable for incineration. These material facts impact directly on the effects of political options in the management of urban waste.

Another aspect of waste’s materiality is quantity. Granted, ‘reduction’ is consensually at the top of the waste management hierarchy (Reduction-Reuse-Recycling-Disposal), thus foregrounding human agency as central to the waste problem. But it is also true that the growing pile of waste, which threatens to invade human life, seems to have a will of its own. Nevertheless, this perception of the social agency of waste can mislead observers into putting too much emphasis on the non-human aspects of the waste problem, as the following examples indicate.

An example of accounts that rest on an overvaluation of waste’s materiality considers waste as a continuation of subjects incapable of speaking for themselves. I am talking here about Garbology. In their previously mentioned book, Rathje and Murphy (2001) explain the principles of their peculiar archaeology. The particularity of their work is that their excavations are performed in people’s bins and, at a larger scale, in landfills. The Garbology project grew from the belief that “what people have owned and thrown away can speak more eloquently, informatively, and truthfully about the lives they lead than they themselves ever may” (Murphy and Rathje 2001: 54). The main interest of the authors is in individual behaviour and the ways in which individuals incorrigibly lie about

it (ibid: 75). The concentration on individuals as social agents participating from the privacy of their domestic places assumes a deformed materiality, almost an inverted ontology, in many ways going beyond ideas of a flat ontology that levels humans with non-humans (De Landa 2002; Michael 2012; Latour 2005). In this ‘more than flat’ ontology, things are made to ‘speak’ above the voices of the humans who tried to get rid of them.

The other example comes from an anthropologist. Joshua Reno produces a fascinating account on the use of bins, sewage systems, and human waste for the surveillance of the population. Namely, police, prison systems and other surveillance apparatuses investigate human wastes for the control of a population’s drug habits (Reno 2012). In these two cases waste bites back through the belief that material cultures are capable of expressing more truthfully about individual’s behaviours than they are themselves.

It is true that “the garbage hills are alive” with all sorts of vibrant processes of reconfiguration (Bennett 2010: 16) but, if anything, they can tell us something about the collective processes of creation and destruction of value; not about how we can punish or correct sinful individuals or households. The materiality of waste must be acknowledged, but also do the social processes through which waste is produced and revalued.

In this thesis I seek to follow Zsuzsa Gille’s advice to acknowledge the materiality of waste from a social scientific perspective, without falling into a kind of fetishisation of the material, which garbology, both in its academic and policing variants propose. For that purpose, it is useful to understand the different approaches that social science has taken on materiality, that are relevant to urban sociology. Minuchin’s typology helps us understand how social sciences sought to include “materiality and its role in articulating urban experiences and interventions”. The author distinguishes three main approaches.

They are “(1) the inscription of metabolic infrastructures, (2) the disruption of the sensible and (3) the assembling of socio-material entanglements” (Minuchin 2013). The first one, is represented by authors such as Gandy (2003) and Swyngedouw, who have looked at the ways in which urban infrastructures such as water supply reenact nature in the ways in which they make materials circulate through the city. The second one, epitomized by Barry (2010) and Bennet (2010), highlights how disruptions of “social and technological assumptions and regulations” reveal the agentic properties of materials. Finally authors such as Macfarlane (2011) and Simone (2010) convey a particular urban ethnographic sensitivity to the ways in which materials and people constantly associate, combine and reconfigure each other to weave the city’s fabric. The focus here is on “a particular type of material politics: one that illuminates the crafts and practices developed to secure and fight for a form of material presence in the city’s frantic rhythms” (Minuchin 2013). The work of Tim Ingold (2011), especially in its critique of Actor-Network-Theory, helps in transposing the recent turn to the material in social sciences to the study of urban recycling.

Material Circuits: Networks or Meshwork?

Like cities, piles of waste are tangles of material routes. Such is the case for example of the New York City’s sanitary landfill or the infamous garbage patch of the Pacific Ocean. They have been constituted at a confluence and crossroads of movements combining human, material, and natural agencies. Only by conspiring not to see (to paraphrase Thompson’s formulation in Rubbish Theory quoted in the beginning of this chapter), and through hiding the intended and unintended ebbs and flows of these tangles can we imagine waste circulation as a network formed by connections between nodes. Ingold’s proposal of looking at the world through the notion of meshwork, offers promising possibilities for understanding what is at stake here.

For Ingold, “things are their relations” (Ingold 2011: 70). Like Graeber does in his argument for understanding value as the result of action (Graeber 2001: 50), Ingold retakes here a Heraclitean stand and gives primacy to movement and its configurations. Things move through trails, not across them. Bodies are tangles of pathways and thus “the world is not an assemblage of bits and pieces but a tangle of threads and pathways” (ibid: 92).

The illusion of containment given by sanitary landfills is a good example of what we could call a Parmenidean delusion. Sanitary landfills, with their bottom linings, none of which has ever succeed to prevent the dripping of leachates underground, and with their always finite capacity against an increasing intake of materials, are living examples of the perils of building systems which artificially ignore the impossibility to contain movement from invading the nodes of the ‘network’. For lines, links, and trails invade things, and bodies are in constant connection with them. As Ingold writes, using the voice of a spider:

“the web is not an entity (...) it is rather a bundle or tissue of strands, tightly drawn together here but trailing loose there, which tangle with other strands from other bundles.” (ibid: 91)

The circuits of waste management, and especially those of material recycling, are eloquent examples of how materials run through trails, entangling with other materials to form objects, which have surfaces that interact with other objects, people, and forces of nature, ever changing. For example, as Hawkins shows in her genealogy of the disposable water bottle, the evolution of PET plastic and its recyclability is closely connected with technological changes and with evolving concerns with hydration, mobility, and the environment (Hawkins 2013, cf. chapter 6 of this thesis). Thus a synthetic material is made to assume a shape – the water bottle – to be fleetingly

associated with the moving human body in need of water, disposed of, transported, melted, and finally reshaped into the same or other forms.

Materials need to be disentangled and made to run through different trails, into smelting ovens or into liquid chemical solutions, through pipes and roads in perpetual becoming. When one thinks about the circulation of waste materials, not as things moving between places but as materials running through things, one is reminded that the journeys of materials are not intervals but lines along which life happens, lines that entangle bodies – of people who work with waste, but also of our own. As Ingold remarks, “every plant too is a living tissue of lines. And so am I” (ibid 91). The work of visual artist Maja Muciek, of a human faetus made of recyclable materials (figure 2) provides a powerful figuration of this idea.

Hence it becomes pertinent to ask how the human body relates to waste in social theory. Being that this thesis is specifically concerned with labour in waste revaluation, i.e. with the interaction of human energy with the process of waste recovery, its theoretical approach poses several questions with regards to that association. What follows will briefly explore the connections between waste and the body.

The Body and the Soul of the Object

Can we compost human bodies? Eco-comedian Rob Newman once said that when the human population reaches 7.5 billion, it will still be possible to feed everyone. But on the condition that we practice: “a strictly vegan diet, bio-intensive farming and the composting of all plant and human waste, including post-mortem humans” (The History of Oil (2006) Rob Newman¹⁰).

The validity of this claim is obviously impossible to assess in advance. It is a political statement, in comedy form, aimed at promoting awareness to the finite character of the earth’s resources. It also calls our attention to the fact that the possibility of social

¹⁰ Script and video at <http://www.robnewman.com/misc.html>

reproduction may depend on the ways we conceptualise and deal with human bodies as waste, just as it depends on the ways we deal with the objects with which we live.

Neither of those two types of unwanted things is independent from social and power dynamics.

In a text called *Rubbish-Power – Towards a Sociology of the Rubbish Society*, Martin O'Brien asks: "Where does your life go when you die?" That is to say, where do objects end up once their owners disappear?

"If you are poor and alone it is likely that your possessions – your letters, photographs, books, clothes, ornaments, and implements – will be collected by a waste contractor and buried or burned in the local landfill or incinerator."

(O'Brien 1999:265)

Social memory is less interested in the material culture of poor people and so the historical evidence one has of them comes usually from other sources. We may say that the possibility to exhume past lives is dependent on social status. On the contrary, like the bodies of ancient Egypt's pharaohs, rich men's possessions are more likely to be preserved for future inspection.

"If you are rich and connected", continues O'Brien, "some of your tokens and records will probably comprise historical archives: monuments to the passage of time. Their historical location and significance – their contents and their meanings – will pass into institutional memory". Thus he concludes: "landfills are graveyards for the poor's personal histories and incinerators their crematoria" (ibid).

O'Brien's acknowledgement of social inequality and power dynamics behind the apparent neutrality of waste management is, as we saw above, mostly absent from garbology (cf. Rathje and Murphy 2001). When a "garbologist", or a tabloid journalist, or

a US detective investigates the contents of a rubbish bin in order to search for the material truth behind people's suspicious accounts, they risk disregarding the problematic dimensions involved in the social production of waste. For archaeological excavations are forms of recycling that very easily disregard the various practices of disposal (cf Gregson 2007) and the "specific temporality of waste" (Gille 2007: 31).

Ideas on temporality and death are for Teresa Brennan (2000) at the crux of the exhausting principles of the present capitalist mode of production. The author points out that technological and organisational developments have dramatically accelerated the transformation of energy into matter. This is true even in animal reproduction, say when chickens are produced in industrial conditions, or to get back to Rob Newman's sketch, the global explosion of the quantity of human bodies. The extreme acceleration in the production of matter generates growing amounts of waste matter, which then need to be reconverted into energy (Brennan 2000: 125).

This necessary process of converting dead matter into energy can no longer be done at the pace of animal scavengers. According to Brennan, capitalism's intensive speed of production generates "a more complete and final form of death", beyond decay, turning "biodegradable life into a form in which it can generate nothing" (ibid: 2). Plastic, which results from the transformation of the death organic matter (oil) into a material that lingers in oceans and other ecosystems without participating in the renovation of life, is a living example of this process. Human labour and ingenuity is then called upon to recycle materials that do not decay organically.

Brennan dissolves Marx's concept of "socially necessary labour-time" into a theory of time and speed. For Brennan, labour power is a form of energy equivalent to, and mostly interchangeable with, other sources of energy. All of these forms of energy are exploited by capital to increase the "speed of acquisition". For the author, the dark side

of capitalism is not death. Rather, the problem is the speed of capitalism, which makes decay impossible.

An extreme example of how speed prevents decay, allowing for the establishment of a social system of revaluation, is the traffic of human organs. Ulrich Beck (2012) thinks about cosmopolitanism through the critical analysis of this global traffic. He remarks: “the circulation of living kidneys follows the established routes of resources from South to North”. This extreme embodied form of cosmopolitan encounter is unbalanced and subject to unequal forces. Thus it assumes particular body crossings:

“Muslim kidneys purify Christian blood. White racists breathe with the aid of one or more black lungs. The blonde manager gazes out at the world through the eye of an African street urchin. A Protestant bishop survives thanks to the liver carved from a prostitute living in a Brazilian favela.” (Beck 2012: 8)

Valuable organs are extracted from dead or living bodies of the poor and are transported swiftly before they perish. In this sense, human organs, like the recyclable packages carefully disposed in recycling bins, are revalued before being completely emptied of value. The lynchpin of all these processes is speed; they are productive cycles that demand swift circulation.

The proposal of composting humans in Rob Newman’s comedy sketch is the suggestion of some system of accelerating a natural process, which can no longer provide for both the ritual and the biological dimensions of its after-life. Furthermore, it is impossible to compost the whole of many human bodies, or even to fully cremate them, as they are incrustated with different sorts of prosthetics. Thus the recovery of materials with market value is also possible and in fact carried out in several crematoria.

The point of this rather sordid excursion through accounts of dead human bodies as valuable resources is twofold. Firstly, it seeks to reiterate the need to open doors to areas of knowledge that we often seek to avoid, noting that waste and death often occupy the same hiding places. As Baudrillard wrote in *The Transparency of Evil*:

“If indeed we were chased out of the Garden for the sin of knowledge, we may as well draw the maximum benefit from it. Trying to redeem the accursed share or the principle of Evil can result only in the establishment of new artificial paradises, those of the consensus, which for their part do embody a true death principle.” (Baudrillard 1993)

As in Brennan’s critique of capitalism, Baudrillard distinguishes a sort of productive death – which is transparent and therefore potentially creative -from the “true death principle” associated with the evil that is not acknowledged and therefore threatens to thrive in the margins of human artificial consensus.

Secondly, the parallels and converging lines between waste and death in social theory point to crucial aspects of contemporary ideas of recycling. Re-cycling means reintroducing in the cycle. Literally it refers to a cycle of production in a perspective consonant to that of “industrial ecology” (see for example Hawkins et al 1999: 202). Metaphorically, both re-cycling and industrial ecology conceptualize the possibility of mimicking virtuous life cycles based on endless creative destruction.

So what is commonly understood as recycling is in fact a special case of it: material recovery for industrial production. Material recovery recycles materials after the object has been consumed, the form separated from the matter, the structure transformed in stream. A bottle could be recycled through a circuit of exchange-transport that would carry it to reuse. But more often than not, a bottle will go in the recycling bin. Thus it will be shattered to enter a circuit of glass recovery for different purposes. As it reaches

the reprocessing factory, it is “unrecognizable as glass (...), a mass of gooey, crunchy, whitish material” (MacBride 2012: 23). As if the soul of the object had to be separated from the body in order to make it valuable for reincarnation.

Closing the Cycle: Recycling's Openings and Enclosures

“Waste is raw material out of place” (Talbot 1920).

As stated in the opening of this chapter, in today's material recovery, theories concerned with objects, lose ground. Recycling, as it is understood now, does not recover objects. It recovers materials, usually through processes that should rather be called ‘downcycling’, because they dissipate value and energy (cf. Alexander and Reno 2012; MacBride 2012).

Thus industrial production inflicts on the object the same extractive operations that it requires to be done on the Earth. True, life-cycle analyses that compare the energy and material balance of recycling versus extraction generally demonstrate the advantages of recycling. But it is also true that industrial recycling dispends vast amounts of energy in the various stages of separation, concentration, and extraction of materials from the objects consumed by urban residents. In this sense we can think of recycling as the disentanglement between the object's materials and its metaphysical qualities (cf Lash 2007) – between what I am here calling, following Baudrillard, the body and the soul of the consumer object. It is an attempt to revert the process of industrial production of commodities, which involves physical and immaterial processes (Lazzarato 2004; Callon 2002). Rather than being the passage of an object through a productive process again, recycling is:

“the passage through a process of wastage again: the return of the object to its concealed status. The rubbish society is... a society whose means of

permanently disposing of or removing waste creates its own opposite: the appearance of a temporary value in industrial commodities.” (O’Brien 1999: 270)

As bodies are connected to the flows of urban waste in more ways than we immediately see, it also becomes clear that a process of revaluation of the work of moving and transforming waste needs to take place. The question now is whether social theories of value can help us make sense of the ways in which value is collectively constructed, agreed, and disputed. The problem of how to account for value is then crucial. A final brief section will focus on this issue and conclude this theoretical review.

Accounting for the Values Retrieved from Waste

According to Stark there is a difference between search and research. In the latter, one does not know what one is searching for, until one finds it. The crucial aspect of research is the ability to recognise the finding when it arises. This economic sociologist is concerned here with organisations who promote change and thus are able to not only to adapt to, but also to drive changes in the organisational environment (Stark 2009). The organisational cultures that promote this propensity to transformation are the ones which incentivise the coexistence and friction between systems of value, or in the author's preferred formulation, inspired by Boltanski and Thévenot (2006), 'orders of worth'. The author defends that sociology shall abandon the distinction between value – the manor of economics - and values - the terrain of sociology. This distinction is for Stark, a result of an artificial division established by the academic politics of demarcation of fields between Sociology and Economics.

More than looking at the productive potential in the coexistence of, and friction between different if not contradictory systems of values, the specific object of waste and recycling forces us to look at values in their potentiality, in their possibility to open up the space for unanticipated social change.

Values are at the core of sociological inquiry. Whether in the form of Durkheim's collective consciousness or Weber's protestant ethics; whether as Parsons' institutionalised values or as the economic sociology's idea that economic value is embedded in culture, sociology can hardly neglect some conceptualisation of values in the definition of its objects. Values can be analysed as operators of judgement, assessment, and comparison. Market value is only one of them. Most possibly all of people's decisions with reference to more or less organic systems of values: 'Do I buy this product in a package or that loose one?'; 'In which bin do I chuck this package?';

‘Do I throw this package away or can I use it for something else?’ ‘Do I call the council to collect my old washing machine or do I leave it by the door for the scrap collector?’
‘Do I care?’

Values are not always directly operationalized in social action. They can also be part of a world-view conforming aesthetic emotions or internal moral pacification, generated by the need to reconcile incongruent values or contradictions between worldview and social action (Thompson 1979; Gregson 2007). These processes may seem to occur on some subjective internal level, all the more when one thinks about consumer choices, and attitudes towards recycling. Yet they are socially constructed.

Social processes impose certain systems of value over others. For example, the arrow in the recycling symbol represents the total singularity of a unique source of valuation. The quality ‘recyclable’ thus hides its equivalence to ‘marketable’, in the instructions transmitted to the people who sort municipal waste. These classifications of what is recyclable assume the appearance of a natural taxonomy, despite its volatility. These processes of abstract equivalence (Lash 2007) – because they compare what is exchanged and what is not exchanged, through the abstract mediation of money– and the ways in which they drive forms of abstractly quantified economic growth (Daly 1991: 186) have engulfed local dynamics in a sort of globalised “treadmill of production” (Weinberg et al 2000: 156).

The global market results, according to Graeber, from a project to institute:

“the single greatest and most monolithic system of measurement ever created. A totalizing system that would subordinate everything – every object, every piece of land, every human capacity or relationship – on the planet to a single standard of value.” (2001: xi)

Like all totalising systems of value, this one “tends to throw all others into doubt or disarray” (ibid).

Yet, despite the dominating force of this “market utopia” (Polanyi, 1944), which states that everything can be quantitatively evaluated, several systems of value are necessary and persist. The contradictions of this system of valuation become evident through recent work on immaterial labour (e.g. Hardt and Negri 2000; Lazzarato 1996).

According to this body of literature, contemporary dynamics subsume the private space and time to the purposes of capitalist production, by regimenting practices of consumption and leisure. These processes render value accounts extremely difficult, posing perplexing problems for example to the quantification of labour value.

One example of these difficulties is the effort to integrate economic and environmental values under the logic of capitalism, which has seen several efforts of theorisation and policy implementation. Proposals that have sought to theorise the potential integration of environmental values under a system of market valuation include discussions on eco-capitalism or *Natural Capitalism* (Hawken et al 1999). Examples of policies geared towards the construction of a market of environmental abstract assets, which have been designed and partially implemented, include instruments such as the Clean Development Mechanism, Carbon trade markets (Mackenzie 2009), the Renewable Obligations Certificates (Reno 2011), and the Landfill Allowance Trading Scheme. In all of these cases the underlying objective is the possibility of translating other kinds of value into market systems of measurement. By and large they seek systems for the exchange of licences to pollute.

In parallel, the conversion of most kinds of negative environmental values into the quantitative language of carbon is in many ways becoming a system of value in its own right, supporting exchanges that may have little to do with the market (c.f. Marres 2009).

With labour, as with other forms of energy, the processes of quantification and valuation are increasingly complex as they associate in more complex production tangles.

Knowing Value

The invasion of managerial discourses in attempts to quantify the value of immaterial labour assumes increasingly problematic forms. A clear example is in relation to the assessment of productivity in academic professionals (cf Burrows and Kelly 2011). The quantitative instruments devised to rank and assess the productivity of both students and professionals in higher education impose logics of “quantification, standardisation and surveillance” (Di Angelis and Harvie 2009). The case of University is particularly revealing of the contradictions of marketization. The value of University work often rests in a conjunction of originality and open collaboration, which is exactly the reverse of the pair standardization/competition imposed by the managerial logic. Furthermore, the authors note, the production of commons is one of the most important outcomes of the University. How can we assess these values in individual producers? The need to convert values into quantities is a demand of a particular form of governmentality that seeks the justification of “value for money” (Di Angelis and Harvie 2009; Alexander and Smaje 2008).

Alternative recycling projects face similar challenges. In many of them, the values they generate through revaluation of waste include social, human, environmental, and economic dimensions, which mainly manifest downstream or at other points detached from their activity. Catherine Alexander and Chris Smaje (2008) sought to devise a model to help third sector furniture reuse organisations “ascertain value for money”. By calculating all the quantifiable costs, including environmental and other indirect costs, on the one side, and outlining the non-quantifiable benefits on the other, the authors arrived at a simple formulation to help political decision-making. The decision will

always be political, the authors stated in their article (Alexander and Smaje 2008), but the computation of all the values involved in furniture reuse schemes and the discussion of who does that assessment are essential for the politics of value involved in waste revaluation. The democratization of the access to the values in waste must also involve the democratization of the access to the processes of valuation. This also demands from social science that it endeavours to create alternative models of accounting for value that can be politically convincing as well as challenging.

The Monopoly of Legitimate Revaluation of Waste: the Feminist Contribution

In the beginning of this chapter I discussed the assumption that urban waste-pickers are a manifestation of deprivation, condemned to disappear through development. The consequence of this perspective is the erasure of the ideological and arbitrary processes through which recycling modalities are historically constructed. In recent decades, “large-scale, organised, urban recycling, which now characterises most forms of remaking and reuse on a global scale” (Alexander and Reno: 2012: 5) has “shot up in the global political agenda” (ibid: 3). The “professionalization of urban waste disposal” (ibid: 7) and of the state’s appropriation of people’s wastes, including for criminal prosecution (Reno 2012: 240), have generated an ideological monopoly by the state of the legitimate revaluation of waste (to paraphrase Weber’s famous formulation on violence). This process of de-legitimation of alternative forms of revaluation of rubbish, which often leads to the criminalisation of ‘scavenging’ is, according to Ferrell, “in fact designed to eliminate any form of material acquisition and exchange except, well, shopping at the mall” (Ferrel 2006: 28).

As I noted before, sociology as *countercycling* provides this possibility of looking at social processes with a specific attention to perspectives, locales, epistemologies, and sectors of the population that are devalued by dominant systems of classification. Therefore I want

to finish this chapter with a brief mention to the contribution of feminist theory to this topic in that it has helped society confront the social construction of femininity rather than the inadequacy of women. Feminist studies have in fact been essential to the understanding of politics of value, so much so that men have dominated the constitution of the market society (Slater and Tonkiss 2001) whereas women are at the source of much of the immaterial and affective labour whose value defies quantification (Lazzaratto 2004).

The processes of discarding are also usually associated with a feminine world. Gregson's ethnography on domestic economies of exchange and discarding of unwanted goods in England (Gregson 2007) and Frederick's account of a participatory community based project of waste management in Dakar (Fredericks 2012) are excellent examples of that association between feminine spaces and waste processes. Additionally Michael Thompson's *Rubbish Theory* refers to the crucial role of women in the organisation of the value/rubbish relationship. To recall his main thesis, objects can move from a transient category (when value decreases with normal wear and tear) to rubbish (where value is zero as some object may be hidden in a drawer or in the loft) to durable (when the object becomes socially recognised as antique or vintage and then its value only increases with time). Thompson notes that the transference from rubbish to durable usually equates to transference from the care of a woman who had it preserved in an intimate space to the sphere of exchange dominated by men (Thompson 1979:33).

So, for all its powerlessness to define values, feminine spaces are potentially open grounds for politics of value, both through practices of wasting, discarding, and refusing, and of reconstitution of identities. Like Thompson's rubbish stage, it is a space that can be secluded from fixed assumptions, but also highly permeable to the engendering of exploitation.

Skeggs (1997) makes a crucial point that relates to what Thompson and Graeber argue in relation to politics of value. The production of class subsumption operates not only at the level of labour relations, but at the level of the continuous reformulation of cultural values geared at maintaining relations of hegemony. The prospects of social ascension become ever tantalising, for the markers of that ascension are defined and redefined in order to maintain certain groups' practices attached to the category of trash, or at least marked as of inferior taste (Skeggs 1997; 2004; 2011).

The aforementioned monopoly of revaluation of waste, as well as the value-ridden accounts that circulate from the social sciences to the politics of value engulfing waste-pickers, are crucial to understanding their chronic exclusion and poverty. On the other hand, the acknowledgement that revaluation of waste bridges different kinds of exchange and enjoins different systems of value opens an enormous potential for the creation of alternative circuits and a redefinition of assumptions. These possibilities are promising to waste-pickers. They are also very promising to sociology.

Conclusion

In this theoretical review I brought together literatures on rubbish, recycling, value and waste pickers. As I sought to make clear there is a body of literature studying and assessing the sociological relevance of waste pickers, yet it has failed to address waste pickers in conjunction with analysis of waste and value. There is indeed a body of literature on social theories of waste, often in dialogue with changing analyses of value and values. But the connection between these two parallel strands is yet to be fully made. This chapter argued for this approach, proposing that the theories of waste depart from an analysis of social life of objects towards a critical understanding of substances and materials in interaction with labour and other forms of human agency.

In this thesis I seek to look at *catadores* as subjects of politics of value with potential to transform urban economies. Unlike what frequently happens, in looking at waste and waste picking, I am not so much interested in the connections between the informal sector and the formal economy, as I am in the way transactions based on environmental and social values, are aligned with other transactions that are determined by market value. The need to account for values that can be generated through waste recovery, transformation, and exchange, other than market value or marketable indicators of environmental value, is a major concern of this thesis. I take the view that waste production and revaluation are social processes entangled with political and ideological forces. They are also ingrained with potentialities that imply a critical view of univocal principles of death, speed, and value imposed by dominant perspectives on the political economy of global markets.

The chapter that follows discusses the techniques of data collection and account with which I sought to transpose these discussions to the field, as well as a description of the locale where the ethnographic research took place.

Chapter Two. Setting, Research, and Representation



Figure 5 A section of the Museum of Rubbish in Curitiba

Introduction: Why Ethnography ?

Every day in Curitiba, in the South of Brazil, thousands of *catadores* pushing carts, driving vans, or riding horse-carts rummage through the city's waste in search of materials that can be sold to the recycling markets. In this research, I endeavoured to investigate what values can be created through the reclamation of urban waste. This included listening to what *catadores* have to say and seeing how they collect, select, and disassemble objects, how they exchange materials for their livelihood and how they associate with other *catadores* to better their conditions; examining their cooperative work and political intervention; walking and working alongside them, and approaching them at cooperatives and on the streets; talking to the people with whom they interact in the urban space and at institutional contexts, and to the people to whom they sell; and observing what kind of circuits they feed into and constitute. I carried out ethnographic research with waste pickers in the city of Curitiba between March and May, and then again between October and December of 2010.

However, the research on which this thesis is based, started six years before with a project on skippers, or 'freegans' in London, and continued in different ways until, between, and after the two ethnographic journeys described herein. In this chapter, I will outline these empirical antecedents and list the data collection techniques used during my ethnographic research. I will also discuss the analysis of data and the production of the account. However, I will begin by justifying the use of ethnography as a general approach to my research problem.

As I am trying to produce an account of forms of revaluation of urban waste that counter exploitative and wasteful models of municipal recycling, focusing on the political aspects of waste-pickers' work the ethnographic toolkit provides the most

adequate resource for the task. As Thompson has written: “the social scientist who wishes to study rubbish must at the very least paddle in it.” (Thompson 1978: 5)

I have explored some of the arguments of Michael Thompson’s *Rubbish Theory* in the previous chapter, namely the idea that rubbish is a stage in the life of objects, which unfolds in a covert region where fixed assumptions and systems of value are suspended. In methodological terms, the author sustains that it is through “participant observation” that one can access this strange world of rubbish. Furthermore, he says, anthropology is the ideal discipline to deal with the subject, because it has developed the tools for the necessary translation between languages. There is no reason to exclude sociology for the point Thompson makes here.

“The rubbish theorist”, says Thompson “has to deal with different forms of discourse simultaneously” (ibid: 5) and will have to deal with the incomplete nature of the ensuing translation processes. Thus she has to recognise and make some allowances to this incompleteness. “Rubbish is”, after all, “a consequence of the impossibility of ever fully specifying the relationship between a process and its cognition” (ibid: 88). Discarding is always the consequence of a process of epistemological impossibility between a subject and an object –*‘I don’t know what else to do with it, therefore I get rid of it’.*

Rubbish is created in the passage of “fixed assumptions” to a “covert”, “flexible” region (ibid: 95). This kind of seclusion of rubbish epitomizes the dynamic character of value and its association, not with final pronouncements on fixed inert beings, but with social action and transformation. Therefore, Thompson argues that, “we need some method that will allow us to shift the focus of attention from social phenomena to the possibility of social phenomena” (Thompson 1979: 139).

In so far as it allows the researcher to move along, against, and with, different regions of the object of study, and to interrogate social phenomena in its potential manifestations,

ethnography provides adequate tools to the problem in question here. It affords possibilities that are denied by other methodologies.

Quantitative methodological approaches, because they aim at producing mathematically explicative models, produce indicators based on characteristics and attitudes of monads, or in-dividuals (in the sense that they are the atoms of the epistemological system), which count as one (Badiou 2005). Thus, units, categories, and values (in mathematical sense) can be aggregated and related in a set of elements and operators, which constitutes the object of study. The units of analysis can be different, both ontologically and in scale, but they need to be fixed and quantitatively comparable.

From its origins, the use of these methods in sociology has served nation-building purposes, in the same way as they also serve 'city-image-building' purposes. In the case of sample surveys, in particular, all objects of study tend to be subsets, often representative of a larger set, which is ultimately the nation-state (Savage and Burrows 2007: 889). Indicators aggregated to the scale of nation-states can then ideally count as one in different global comparative series. Imagined communities (Anderson 1983) of imagined in-dividuals are thus built with the aid of technologies invented by social scientists (Savage and Burrows 2009). Recycling data is an example of how numbers, resulting from more or less sophisticated statistical analyses of material and social surveys, can obscure political options taken at its foundations. In chapters three and five two examples of this phenomenon will be discussed.

This is not to say that quantification can be avoided when investigating recycling. On the contrary, as I have argued in the previous chapter, in a section entitled *Accounting Value*, through literature on previous research on community recycling and on contemporary changes in labour at large, it is clear that there is a need to develop ways of accounting for the social value of alternative forms of recycling. The main issue here is the demand

from quantitative methods of extensive detached techniques of engagement with the object of study.

Additionally, the effects of context are an important aspect associated with these techniques, which again may tend to artificially exacerbate individuality. Data from survey questionnaires, or from weights of household bins, or from consumer practices, or from the performance of individual professionals, (in the same way as, I would suggest, results of secret ballot elections or students' exams) are the result of events in which there is an illusion that isolating individuals from the influence of significant social bonds makes the result more reliable. This aspect of the valuation of forms of expression performed in milieus "protected" from social influence may, in some specific cases, be present in new manifestations in the case of research in digital media. These are ongoing debates within and around the social role of sociology before current changes in sociality, in particular under the influence of digital forms of communication (cf. Savage and Burrows 2007 and 2009; Beer and Burrows 2007).

Hence, I am not arguing here for a superiority of qualitative methodologies in relation to quantitative ones, which in any case is a dispute that artificially separates the need to count certain aspects of a case-study, and relate the resulting figures, from the need to account for it. The point that I am trying to make here is that the data produced through detached extensive techniques may be very rich, but have limited possibilities when one is trying to investigate pliable systems of value, variable geometries of association between units of variable size, bureaucratic and political agents of different scales, and individuals that are in fact in many ways "dividuals", to use Critchley's formulation (Critchley 2007).

However, ethnography also poses a number of difficult problems. These difficulties emerge mainly from the ways in which its procedures and the data it generates frame, in

temporal, spatial, and sensory terms, the object of research. This chapter seeks to bring those frontiers into focus, to highlight the ways in which they sometimes artificially determine the value of research data. The temporal frame of ethnographic research is particularly critical here. In order to sustain this thesis' attention to possibilities, aspirations, life projects, political achievements, collective potential, and urban change I had to be vigilant of the risk of perpetuating the "ethnographic present" and thus de-historicizing the object of study (Clifford 1986: 111). One must be aware that ethnography necessarily frames reality through various techniques.

One crucial framing device I used during fieldwork was a small video camera. Further along in this chapter, I will discuss its use in the research interaction, the character of the data it generated and the use of images within this textual account. The ethnographic vignettes used throughout this thesis also serve the purpose of illustrating the account with snapshots of my fieldwork experience. The subjective experiential aspect of ethnographic fieldwork is crucial in the epistemic possibilities of this method. I will next briefly reflect on the productive potential of research unsettlement. The following sections of this chapter will present a brief characterisation of the ethnographic field as well as discuss the systematic techniques of data collection used, the forms of the data, and the ways it was analysed and is presented in this text.

Ethnography as Unsettlement

I am arguing here that ethnography is a form of approximation to the object of study that is necessary to the production of a "thick description" (Geertz 1973: 10) of the object of this thesis. This is achieved in part because ethnographic research allows for reality to unsettle the researcher from his or her previous contexts of intellectual comfort, assumptions, and embodied dispositions. Doing ethnography in a city and country where I had never been before, on an object that has different relevant sites and

institutional settings, with people that are mostly mobile, in a language that is different from the one in which the account was written, presented a set of challenges that do not conform to any restricted ethnographic toolkit. These challenges are more crucial because the object of study here is located in the confrontation between different systems of value.

The same is true about the specific challenges of research on waste, waste-pickers, and recycling. In order to respond to the challenges of the field and elicit new productive questions, knowledge, and opportunities, I sought epistemic instruments to navigate the urban setting as a temporary resident, traveller, multi-sited ethnographer, visual ethnographer, and visiting university student. In many ways, the foreign urban ethnographer faces challenges that are similar to those of other urban dwellers, especially migrants. Thus, she has to make use of very similar tactics and strategies. We could transpose here Simone's notes on residents of African cities – their “task is to situate oneself in a place in order to assess what is happening in one's environs” (Simone 2004: 227). What is particularly salient about those proceedings, both in city life as in urban research, is that they are not meant to find reconfirmation of previous practices and beliefs, but to access new opportunities, possibilities, and changes that can hardly be anticipated.

Such is the promise of the city, and such is the allure of social science. As Latour muses:

“Like all sciences, sociology begins in wonder. The commotion might be registered in many different ways but it's always the paradoxical presence of something at once invisible yet tangible, taken for granted yet surprising, mundane but of baffling subtlety that triggers a passionate attempt to tame the wild beast of the social.” (Latour, 2005:21)

Ethnographic methods are, I argue, often meant to produce unsettlement throughout the very process of research as well as (but also more than just) being, as Latour writes, a way of taming a reality that poses paradoxical questions. As such, sociologists come up with questions, elect sites, and devise methods aimed at producing unanticipated effects. The aim is to find out what we did not know before, through recombination, reevaluation, comparisons, and new engagements. In other words, find out “what kinds of relation (experiences) different modes of relating (methods) give rise to or allow” (Fraser, 2012: 102) Like waste-pickers, the ethnographer engages different and sometimes apparently contradictory systems of value in gleaning and sorting data. The clash between different systems of value manifest when the ethnographer juxtaposes or approximates different languages, institutions, cultural grids, worldviews, political alignments, global regions, or areas of the city. In as much as they provoke those confrontations, ethnographic methods are by definition unsettling experiences.

Before discussing the methods of collection used in my fieldwork, I want to start from the beginning of this process of unsettlement – my arrival at Curitiba. This short impressionist account will introduce the setting of the fieldwork research location, which will follow on with a brief geo-demographic characterisation of the city and its wider location. Then we will have a sketch of the setting to discuss how and what data was collected.

The Field

As I take off from the central airport of Rio de Janeiro, the view is stunning. From the airplane window, protected from the city's unforgiving tropical heat, I can behold Rio's magnificent geography and bizarre built environment, with bunches of self-built houses, misaligned, protruding shoulder to shoulder from every hill, over the sea, over the lake, over the Guanabara Bay and looking down on the rest of the city, inverting the obvious topographies of urban social stratification. The setting is illuminated by a bright sunshine tamed by a few cotton clouds, and the view is so sharp that I can almost see the incalculable energy that exhales from the friction of the city.

Less than an hour later, the captain announces that we have started to descend to Curitiba. I peek through the window, with my camera ready to capture the first image of the city, and have my notebook waiting for a written account of my first impressions from above. From the window, all I can see is clouds. The hope of having an aerial glimpse of my research setting evaporates as we penetrate the white mass of clouds and the windows turn grey. It is as if Curitiba, the city, is corresponding to the adjectives of closed and cold, with which other Brazilians usually associate its residents.

Out by the airport, it is indeed cold and rainy and I reach for my jumper and jacket. A friend of a friend, and her brother-in-law meet me to drive me to her house, where I will be hosted for 7 weeks. My first approach to the city is about to be marked by the story my new friends will tell me on those 40km between S José dos Pinhais and Pilarzinho-Curitiba.

One of her neighbours, a girl in her early twenties, was murdered two weeks ago. Through the one-hour drive, accompanied by the sound of the windscreen wipers, as I struggle to imagine the street where I am going to stay, my host is filling my imagination with a horrific tale of the girl's last weeks of deep crack addiction and chaotic life with criminal company, two doors down from us. When the murder happened, on a forest path a few meters away from our street, the English mother of the deceased young girl was in London. She returned, a few days ago, when the body of her daughter had been already identified, subjected to all legal investigations and cremated, thanks to the diligence of my host.

As soon as I put down my bags at my new place, I am taken to another neighbour's house where a kid's birthday party is taking place. I sit down at a table full of wonderful savoury home-made nibbles and cakes, surrounded by 6 or 7 women, hearing stories of urban crime, whilst the children run around the house. The scene reminds me of Teresa Caldeira's thoughts on fear of crime: The 'talk of crime', performed by communities of neighbours orders the space by imposing

symbolic walls, prohibitions, and other geographic regulations. It also fuels and exacerbates urban fear of crime¹¹. The geography of fear is outlined around the street where we are, and in the city centre close to the bus stop at the other end of my commuting routine to be. In my complete inexperience about the area and the city, there appears to be no way to avoid it, no alternative geography in which to navigate.

During the rest of my fieldwork in Curitiba I am often welcomed in the family house of my host's sister, where she often stays. It is located a few miles away, in a neighbouring borough, also on a periphery of the city. Their father had built the house more than ten years ago. It's located too close to a small watercourse where wastewaters from houses upstream are discharged. They have been penalized by the fact that the local government changed the distancing regulations, does not treat the sewage, and does not give permission for them to work out a solution themselves. So the market value of the house tends to zero, despite having 4 bedrooms, two floors and easily accommodating at least 8 people when I am there.

My hosts in the first stage of fieldwork repeatedly disproved the idea that Curitiba might be less welcoming or more closed than the rest of the Brazilians. Their warmth and generosity never ceased to astound me, especially in the face of their various difficulties. These are much more relevant than the influence these impressions may have had on my first thoughts of the city.

They also showed me part of a reality that might otherwise have escaped my observation. It was a very intense first revelation of the flipside of Curitiba's urban "miracle" (Moore 2007:73), even amongst middle-class or lower-middle-class families. At times, the experience felt like an embodied blockage to my initial approaches to street research and incursions in the problematic urban spaces associated with the waste trade and urban poor. At times I felt like other researchers who were hesitant to approach waste pickers on the streets and kept to the cooperative settings (e.g. Coletto 2010). Yet it was also this early impact with the reality of urban insecurity and the sense that frontiers of safety are by and large symbolic and illusory that allowed me to develop mechanisms to overcome those limitations.

¹¹ Caldeira 2000: 20

As a ‘posted ethnographer’, who has always lived in the Global North, most of those frontiers were in my own habitus, developed through socialisation in the “abyssal way of thinking” (Sousa Santos 2010), which draws hierarchical divisions between Urban North and South. Some of those frontiers can be identified in the socio-geographic description of Curitiba that follows.

The Urban South

‘Since 2008, more than half of the world’s population lives in cities’. The United Nations has produced and widely circulated this statistical value, which has since been routinely repeated, as I do here once more. What is not always explained is that most of the cities that contribute to this landmark achievement are located in the southern hemisphere. According to 2007 UN data, 82% of the population of South America lived in urban areas and the average annual growth of cities in the subcontinent was 2%. In Europe, these figures are 72% and 0.2% respectively. So not only is the South American continent more urbanized, urbanisation is also ten times as rapid in South America as it is in Europe. With important parts of this growth being absorbed by informal settlements, the continents of Africa, Asia and South America have now immense metropolises with particularly critical processes of demographic explosion and implosion that concentrate material waste and exclusion on a much higher scale than in the North of the globe. In most of those cities, excluded populations turn to waste as a source of livelihood. They collect, select, bundle and sell the part of the solid waste that can be used as raw materials for industries (Medina 2007; Wilson 2009).

The Country: Brazil

Brazil has 16,800 km of borders shared with ten countries: Uruguay, Argentina, Bolívia, Peru, Colombia, Venezuela, Guiana, Suriname and French Guiana. Due to the

complexity and occasional uncertainty of Brazil's borders, the government's foreign office has two commissions responsible for the bilateral coordination of frontier study, inspection, and surveying. The coastline of Brazil is on the Atlantic Ocean, and is 7400 kms long. Brazil's area is larger than the contiguous United States of America (USA minus Alaska), and its more than 8.5 million square km are administratively divided in 27 autonomous States. The climate is mostly tropical, but temperate in the South. The population has surpassed the 200 million mark, in a country that had fewer than 18 million inhabitants at the beginning of the 20th century and fewer than 120 million in 1980 (source: IBGE¹²).

Fieldwork occurred during the last months of the government of the Workers Party presided by Lula da Silva. The former factory worker and union leader presided over a decade of profound change in the social fabric of Brazil, deemed by many the "decade of equality". Despite the criticism of scholars like Jesse Souza, who has been warning about the invisibility of social inequality in Brazil and the excessive focus on economic quantitative indicators, many have diagnosed the ascension of a "new middle class" (cf Souza 2012). This new middle class is comprised mainly of the growing class C with its increasing purchasing power, who are seen as having been 'lifted out of poverty' by Lula's social policies (ibid). In fact, this growing purchasing power is also in large part sustained by widespread credit for consumption. During my fieldwork I could witness that high street shop windows always display prices in instalments, even when it comes to cheap shoes, clothing, or home appliances.

My arrival in Brazil for my second period of fieldwork coincided with the election of Lula's successor in the leadership of the party, and in the presidency, Dilma Rouseff, who is also the first female president of Brazil.

¹² <http://brasil500anos.ibge.gov.br/en/estatisticas-do-povoamento/evolucao-da-populacao-brasileira>

The State¹³ of Paraná

Curitiba is the capital of the southern State of Paraná. The area of Paraná (199 315 Km²) is about 90% that of Great Britain's. Parana's population in 2010 is, according to the national census 10,444,526 (source: IBGE) - very similar to a medium size European country like Portugal, Greece, or Belgium (source: CIA's World Fact Book¹⁴). Its lower human density (the population of Portugal in the area of Great Britain) is an indication of its vast areas dedicated to extensive agriculture, mountain ranges and plateaus that still preserve remains of rich and unique moist and coastal forests. The rural landscape is dominated by cattle production and monocultures such as soybeans, cotton, and yerba-mate - a kind of green tea much appreciated in the region. Parana shares this and other particular food habits with a region that includes its southern neighbours – Argentina, Paraguay, and the state of Santa Catarina - as well as the near-by country of Uruguay and State of Rio Grande do Sul. The importance of cattle production and the centrality of meat in the eating habits of the population – especially barbecued - is another of the traits shared with this wider region. The State is also rich in local small-scale economies of subsistence, supporting populations of slave ascendance (*quilombolas*) and indigenous heritage.

Paraná has strong industries, especially the agro-industry, car production, and paper. It is also an important centre of hydroelectric production. Parana is one of the States in Brazil that contributes significantly to the country's exports. The port of Paranaguá and the *tríplice* border with Argentina and Paraguay at Iguazú are the main doors through which products are shipped abroad.

¹³ I use State (capital S) for the particular administrative divisions and 'state' (small cap) for the national state or the abstract notion of state.

¹⁴ The World Fact Book, Entral Intelligence Agency, at <https://www.cia.gov/library/publications/the-world-factbook/>

The demography of Paraná is characterized by propinquity in urban areas. Its three Metropolitan Areas - Curitiba, Londrina, and Maringá - concentrate nearly half of the State's population. Outside of these areas, there are twenty other conurbations with more than 90 000 inhabitants. One of them, Ponta Grossa, with its 315 000 people, is contiguous to the metropolitan region of Curitiba.

The increase in population of the biggest agglomerates in Parana is mainly composed of European (Italian, German, Ukrainian and Polish) and Japanese immigrants, and by *Paranaenses* flowing from rural areas where agriculture has become increasingly mechanized into the new industrial centres (Source: IPPUC).

The City

Curitiba is one of the nearly 5 500 municipalities in Brazil. It is a middle-sized city of 1.8M inhabitants in an area of 435km². It is the 7th most populated city in Brazil.

Curitiba has experienced explosive growth in the second half of the 20th century.

Beginning with less than 200 000 inhabitants in 1950, the city's population practically doubled every 10 years for three decades in a row. (Macedo, 2004; Schwarz, 2004: 28).

Curitiba is highly influenced by its proximity to São Paulo. The distance to the third biggest metropolis in the world is 400 km or a 25-minute flight. It is a frequent commute route for different business people. Curitiba is separated by slightly less than 100 km and a small mountain range from the coast. The city spreads for 425 square kilometres, on a plateau about 900m above sea level (Macedo 2004).

Because of its altitude and sub-tropical character, Curitiba has very atypical weather conditions. It is open to the winds from the South Pole, which can cause the temperature to drop drastically. With its extreme thermal amplitude across the days and

the seasons, Curitiba is the coldest capital in Brazil, with temperatures that can reach levels below zero.

The Metropolitan Area

In the 21st century it is difficult to understand city life without considering the Metropolitan Area. As material economic circuits widen and engage more closely with global transactions, and as transportation and urban developments also stretch people's commuting journeys beyond the city outline, the metropolitan area becomes increasingly entangled with the city space. The metropolitan region is now a crucial mediator in transferences between geographical scales.

The industrialization process of the State of Parana, which became critical in the 1970s, concentrated in the metropolitan scale. The metropolitan regions were defined nationally in 1974 as adequate forms for the national control of urban policies. In the area of waste management the pertinence of the metropolitan scale is particularly visible. Curitiba's sanitary landfill (1989-2010), a vanguard technology at its inception, was located outside the municipality. Equally, as I witnessed during fieldwork, the discussions that procured its replacement involved an inter-municipal consortium. My fieldwork also included two cooperatives in the metropolitan municipality of Colombo.

Curitiba's metropolitan area comprises 25 municipalities. To the East, it borders coastal cities such as Paranaguá. To the west it borders the municipality of Ponta Grossa, which is located more than 100 km away from the centre of Curitiba and is one of the most populated areas of the State. The metropolitan region concentrates 27% of the population of the state. As city growth started slowing down, the metropolitan area absorbed the migrant population. In the 1990s the Metropolitan region of Curitiba was

the second fastest growing area in Brazil, following the metropolitan area of Belém in the Northern State of Pará.

The development of the metropolitan region is marked by extreme asymmetry. In 2000, the Municipal Human Development Index places the city of Curitiba in the 19th position nationally. But if you look at the metropolitan area, it has some of the poorest municipalities in Brazil. For example, Itaperucu, 31km North of the city of Curitiba, has a municipal HDI of 0.675, which makes it the 3365th of the country. The poorest municipality in the Metropolitan Area is, according to this index Doutor Ulysses, nearly 100 km north of Curitiba - it is the 4,179th of the country¹⁵ (Cenci, 2010).

City's Particularities

Curitiba has the highest car ratio in the country, and one of the most efficient public transport systems in Brazil. A colour coded integrated system of express, metropolitan, rapid, light, bended, and double bended buses, dedicated bus lanes, tube-shaped bus stations, and interface terminals make this unique system a central feature of city life. To face the rapid population growth, this inventive bus system avoided the construction of an underground train network. The integrated network of transportation of Curitiba was created in the 1980s and became a model to many cities worldwide. The public transportation grid orients the municipal master plan.

Curitiba is seen in many sectors as a safe city. This is in part because urban segregation allows the middle classes to remain separate from urban violence. Yet urban crime has become a problem difficult to contain, especially due to crack trafficking and addiction.

¹⁵ Source: PNUD/Desenvolvimento Humano e Condições de Vida: Indicadores Brasileiros - Atlas do Desenvolvimento Humano no Brasil - 1998. Elaboração: IPPUC/Banco de Dados 2008

According to police data, the number of murders per habitant in Curitiba was as high as Rio de Janeiro's, or three times that of São Paulo¹⁶.

Curitiba as Model-city

For the latest twenty years, Curitiba has grown in international fame on account of the creativity and rationality of its urban policies. According to Moore, “[i]t is fair to say that no other city has received so much attention in the professional press for its planning initiatives” (2007: 73). For nearly 40 years, Curitiba's municipal government has been under the responsibility of architect “Jaime Lerner and colleagues” (ibid) and by a direct lineage of political heirs - the “Lerner Group” (Schwarz, 2004). In this period, the city has won important awards by world institutions such as the United Nations Educational Scientific and Cultural Organization (UNESCO), the United Nations Environment Programme (UNEP), the Institute for the Conservation of Energy (ICE) (Moore, 2007: 73) and, more recently (2010) the Swedish Globe Awards for sustainable cities¹⁷. The capacity of the “Lerner Group” to get their message across to the international arenas where environmental and sustainable values are consecrated is at least as remarkable as some of the policies they have carried out. In many ways, this proficient external self-promotion mirrors the effectiveness of some internal campaigns that were central to many of those policies.

Curitiba's sanitary landfill, inaugurated in 1989, worked with cutting edge technology.

Also in 1989, the municipality launched a massive campaign promoting domestic waste separation across the city. It focused on schools and in the mass media. Its name - “Lixo

¹⁶ data from the Public Safety Office of the Government of the State of Parana, published in Gazeta do Povo in 01/05/2010

<http://www.gazetadopovo.com.br/vidaecidadania/conteudo.phtml?id=998243>

¹⁷ The Globe Awards are an initiative of the Swedish NGO, Globe Forum. They were created in 2007 as a national recognition for CSR projects. They are aimed at promoting sustainable innovations in the marketplace. In 2009, the Forum turned the initiative into a global award in 4 different categories: Sustainability Reporting Award, Sustainability Innovation Award, Sustainability Research Award, and Sustainable City Award.

que não é Lixo” (Rubbish that is not Rubbish) – has survived until today. The most recent version of the campaign has a different title – SE-PA-RE (Do Se-par-ate) – but “Lixo que não é Lixo” is still its tagline. It is also the way most people refer to the municipal selective collection. Some media materials supported by the municipality (such as the film *A Convenient Truth: Urban solutions from Curitiba, Brazil*, Del Bello 2006) claim that “Lixo que não é Lixo” was the first campaign for urban domestic separation of solid waste in the world, which resulted in recognition from the UN. The front page of the environmental section in the municipality’s website suggests that very idea:

“The city was the first in Brazil to introduce the separation of domestic garbage on a wide-scale basis. The acclaimed program 'Lixo que não é Lixo' (literally, 'Garbage that isn't Garbage'; a successful recycling program) created in 1989 has become a paradigm of care for the environment.” (Local Authority website – History page in English¹⁸)

In parallel, some innovative policies were developed. One of them was the “Green Exchange” program. It started in 1991 (Oliveira, 2001), and consists of vegetables from crop surplus that are exchanged for recyclable waste in some deprived neighbourhoods. The policy is a recurrent case study of waste management and integrated metropolitan government, for it manages to address in one stroke two problems: the destruction, by farmers, of surplus crops in order to regulate the market, and the collection of recyclables where access is difficult and improper waste disposal is habitual.

All the waste collected by the municipality is supposed to be taken to its municipal materials recycling facility. The plant is a well-organized centre of material triage. It is called UVR (Unidade de Valorização de Resíduos- Waste Valorization Facility) and is mentioned in many accounts of Curitiba’s urban recycling system (e.g. Rabinovitch, 1992, *A Convenient Truth*, 2006) as the central node for the recirculation of recyclable waste. It employs nearly a hundred people and generates revenues that are entirely

¹⁸ History of the City - Prefeitura Municipal de Curitiba. (n.d.). Retrieved September 24, 2013, from <http://www.curitiba.pr.gov.br/idioma/ingles/historia>

destined to fund municipal social policies. Yet, only 1% of the waste collected in Curitiba circulates through this network of materials. Not only is the contracted collection operation not capable of collecting as much material as *catadores*, but also the recycling facility has not got enough capacity to receive the product of this official collection, which reverts to the ‘informal’ circuits. I will come back to these figures towards the middle of this thesis, when I discuss the different circuits of waste revaluation operating in the city.

The fieldwork

Before explaining how I collected the data during my ethnographic research in Curitiba, I will say something about how I came to be interested in recycling and the previous research that led me to the waste-pickers of Curitiba.

Pre-history of the Research Project

It is easy to establish where the research project ends; the formal submission of the manuscript is the final door closed on it. It is harder to say when and where was the point of entry. My sociological interest turned to reclamation of waste in the city when I accompanied some friends to 'skip' (i.e. to rummage through skips of) discarded vegetables at the New Covent Garden Market in London. Being the main transfer depot of imported food in London, the Market discarded high quantities of edible food of high quality, whose quality had fallen below market standards. The experience gave me access not only to free high quality food that I could otherwise hardly afford, but also to people who showed me how it was possible to live avoiding the use of money in one of the most expensive cities in the world. More, what generated the possibility of life outside the market, were the very economic dynamics of an expensive city, i.e., a city with a relatively inflated housing market and that provided a wide range of imported food produce. Waste was the mediator that made sense of the apparent contradiction between the city's inflated markets and the availability of market-free lifestyles.

What subsequently led me away from that particular case study and eventually onto the organisations of waste-pickers in Brazil was the fact that most 'skipping' that I encountered was making use of the covert space of waste (Thompson 1979) in a definite way. What I mean here is that skipping revealed a contradiction of the urban economy, but was not practically connected to an intention to address it, to counter it. For most of my research participants, waste is widely accessible in the city, it can be used to feed

alternative forms of living, and its invisibility is an advantage. In short, the politics of visibility seemed in many ways something to avoid. In the search of more directly political approaches to waste revaluation I ended up finding the confrontation between the exemplary municipal model of Curitiba and the political struggles of waste pickers for visibility.

In the meantime, while completing a Master's dissertation in Social Research, I researched the making of the markets of recyclables in London, through interviews with market operators, archival research of trade publications and observation at the London Metals Exchange.

From the beginning, my interest in waste, politics, and sociology was accompanied by different forms of research and fieldwork. So when I landed in Curitiba I could make use of different approaches to the topic, not only as background to my own outlook on the field but also as an exchange currency for the communication with research participants. It is easier to get participants to tell their stories if the ethnographer has himself or herself stories to tell. During my fieldwork, these were solicited as a result of a common *question*: 'So how is it in Europe?' This general question included several others such as: 'Is there waste on the streets?' 'How clean is Curitiba in relation to cities in Europe?' 'Are there *catadores*?' 'Do people separate materials?' 'Are recyclable materials more valuable?' 'Are there sanitary landfills?', etc. Having done previous research in London I was fairly well equipped with information and knowledge to exchange with research participants and interviewees in different settings. This facilitated the development of research relations.

Before arriving in the city, I also spent a few days in Rio de Janeiro. There I attended the World Social Forum where I met delegates from the national movement of *catadores* and visited one recycling cooperative at a *favela* in the periphery of Rio. These exploratory

opportunities, without being enough to develop a systematic comparative analysis of urban recycling in Brazil, nevertheless gave me a sense of Curitiba's idiosyncrasies.

The Ethnography

Ethnography comprises many different sets of tools and procedures, which generally have in common the fact that the body of the researcher is the most important research tool (Sassatelli, Santoro, and Willis 2009). The way the body is used, the way the senses are mobilised and the set of auxiliary devices that are activated depends on the characteristics of the setting and problem, as well as on the unfolding of events and new questions. As Fraser argues, it is difficult to define what methods are going to be adequate to the materials generated by the research. The challenge is to design research so as to make space for "the problem to pose itself" without losing sociology's disciplinary distinctiveness (Fraser 2012:102).

Forms of Data Collection

In two periods of nearly two months each in Curitiba I carried out a number of techniques of data collection. This section lists what they were.

1) Interviews

I did a total of 70 interviews of different types in different settings. In cooperative settings, I did 12 semi-structured interviews with *catadores*, 6 semi-structured interviews with support technicians, and an additional 20 very short unstructured interviews, mostly on camera, with *catadores*. Whilst the semi-structured interviews, predominantly with presidents of associations and more prominent research participants, were used to get an understanding of issues involving the political struggles of *catadores* for a space in the city's economy and polity, the short conversations with individual *catadores* were mainly

used to elicit problems in the context of associations and to cross-check information gathered elsewhere.

Outside of cooperatives, but still within other institutional contexts, I did another 9 semi structured interviews with municipal officers, state prosecutors, NGO project managers and a leader of a local campaigns for the closing of the metropolitan sanitary landfill.

Institutional settings are certainly more amenable to the enactment of interviews as events that create an ad-hoc 'laboratory' for social scientific research. There is nothing wrong with that, and sociology has indeed honed the instruments of analyses that are able to make the data work for the construction of knowledge. In the beginning, my research design was focused on these kinds of settings and processes.

However, I soon realised that, as much as institutional settings provide the researcher with availability from people and material devices – rooms, chairs, tables, etc -they also limit the access to some aspects of reality, through formulaic and performance barriers, such as power point presentations or power relations within the space. Hence I also endeavoured to interview, talk, accompany and observe some of the people that I interviewed in institutional settings outside of those, preferably in informal, social situations. These encounters proved to be invaluable sources of information and in some cases usable data. When I walked alongside *catadores* through the *favelas* where they lived, I could not only access places that could be dangerous to cross on my own, but also developed conversations in parallel, which are prone to other kinds of information. When I met NGO social workers out for a drink or lunch, I got access to a different willingness to provide information and opinions on different aspects of their work with *catadores*.

But by far the most revealing conversational technique deployed outside institutional contexts or normal interview protocols were the 25 short interviews that I did by approaching 'non-organised' *catadores* whilst they were collecting on the streets. These were at first unstructured then increasingly structured around a series of short questions. These encounters lasted between 5 and 25 minutes and were almost generally recorded in a small video camera, which was used as a device to frame and pin down interactions that were mostly fleeting. These interviews were revealing not only for the discursive information they generated but also for the repeated revelation of a surprising attitude of cooperation with research and random approach, which was absent from literature and other accounts from researchers.

2) Observation

Hanging out in cooperatives was my main plan. Once some initial bureaucratic obstacles were surpassed, most people who work in the associations were mostly extremely welcoming and in some cases, used to the presence of researchers. I did observation in five associations of Curitiba and two of the metropolitan city of Colombo. Of the associations I studied in Curitiba, I visited all more than once, having spent several full days and half days at cooperative CATAMARE¹⁹. I also accompanied two of CATAMARE's *catadores* through entire collection days in the city, two with pushcarts and a couple on a Kombi van.

Another important part of fieldwork consisted of accompanying the materials that were sold by the cooperatives or associations. Thus I accompanied loads of different materials taken from cooperatives to intermediaries who dealt in plastics, paper and metals. I also visited one factory that made plastic wrappings and rubbish bin bags out

¹⁹ By now the reader may be puzzled with the almost interchangeable, yet specified use of 'associations' and 'cooperatives'. What are the differences and commonalities between the two? Chapter four will answer these questions.

of recycled plastics partly bought from a middleman who in turn bought from associations and cooperatives of *catadores* in Curitiba. There I interviewed the factory owner and accompanied the process of production. The aim was to map the circuits of recyclable materials in Curitiba beyond the official unilinear image.

Walking with, alongside, and against people, as much as finding vantage points of observation, and reasons to hang out in institutional settings, were essential in the engagement with the field. The next section, on circulation and mobility, will make the case of the importance of movement and the use of travel methods with regards to this particular research project.

The Data

The data collected during fieldwork was brought back in different forms. I ended up with thirteen hours of video recordings; fifteen hours of audio recordings; a selection of one hundred photographs; and twelve notebooks with field notes. Apart from these I also brought back notes on, and copies of, several dissertations and films made by other researchers, apart from statistical data solicited from the municipal services and the Institute of Urban Planning.

The Account: Use of Ethnographic Material and images

All the images used in this thesis were made by me except in the few cases in which it is indicated otherwise. A good part of the images are stills from film footage. The use of the pictures through the text has different purposes from the ones that open the ethnographic chapters. The former have a more descriptive explicit intent and are meant to complement or illustrate the text. The latter, i.e., the standalone pictures that open chapters and sections of chapters have more of a suggestive tone, helping to enliven the narrative and bring the reader closer to my personal engagement with the field. A similar

distinction can be drawn between the vignettes written in ethnographic present and indented in italic. When they appear included in the text, they have a more explicative and illustrative, purpose. When they open sections or chapters they are meant to bring the reader to the scene, and make visible my own personal experience as ethnographer.

Temporality, Circulation, and Mobility in Fieldwork: Travel Methods

Having a methodological plan that demanded approaching the field through various perspectives, negotiating entrance in diverse organisational settings (such as cooperatives, NGO premises, the street), spending time with an array of social actors (attorneys, project managers, technicians, municipal officials, *catadores* working in different settings and capacities) and following materials through market networks (disposal, collection, sorting and reprocessing), my ethnographic trajectory was also very mobile. But a research project is like a journey, for:

“Journeys carry plans, intention that is not always realized. So journeys are open to unfolding possibilities, sometimes moving in new and unpredictable directions.”

(Knowles 2010: 375)

The ubiquity of *catadores* in the city meant that I often had opportunities to approach them when I had not planned to do so. Therefore, these ethnographic encounters resulted, in many cases, from random intersections between the mobile routes of researcher and *catador*. Other times they were the result of the successful identification of vantage points.

The need to identify and map circuits of material transactions and to research the people who weave those circuits, as well as the power relations that constrain their position in those circuits, has an effect on the temporality of the research process. Being concerned predominantly with people at work, the research tends to exclude spaces of leisure and other forms of relevant cultural production, like domestic family relations. Granted, there is some reason to take into consideration Paul Gilroy’s warning that it is not only through labour that people’s identities are formed, but also through culture and leisure (Gilroy 1992). And to be sure, it is relevant to recall here Paul Willis’ argument that

“work in play is more crucial in many ways than the material productions of formal worktime”. (Willis 1990: 16)

Yet it is also true that the division between domestic and professional spaces, as well as between leisure time and labour time is not so clear in the case of *catadores*. Family relations permeate life in cooperatives, moments of leisure and conviviality emerge during collection routines through the city, a big part of the work of sorting is for many carried out at home, and households are often the basic unit of production (inside and outside cooperative settings). Moreover, an important part of the most productive cultural activities happens in associative and political settings.

Caroline Knowles’ (2010) critical take on ‘mobile sociology’ (Urry 2002) and her notion of ‘travelling methods’²⁰ are crucial to understand mobile research processes, in which a posted urban ethnographer is involved under multiple regimes of temporality. Her critique of John Urry’s concept of mobile sociology prevented me from following the illusion of flows and networks of materials and people. Instead I became aware to the need of looking at how “they bump awkwardly along creating pathways as they go”. For materials and people:

“grate against each other; they dodge, stop and go, negotiate obstacles, back-track and move off in new directions propelled by different intersecting logics. They do all of these things and more; but they do not flow” (Knowles 2010)

Thus they cannot be followed and mapped as if we were observing from outside or simply recording until we can represent them in a network that connects between fixed nodes. The ethnographer has to navigate a strange land as a traveller, walking and opening trails, rather than following maps in search of perfect images as tourists do. For,

²⁰Caroline Knowles, [On the Flip-Flop Trail: the Difficulties of Traveling Methods](#), Posted on [June 10, 2013](#), retrieved in July 17, 2013

as Ingold argues, life happens along lines, people build paths through walking, and places are just tangles of many of those traces (Ingold 1988).

In order to produce an account of this moving reality, in order to, as Les Back puts it, “capture an outline of an existence that is fleeting” one needs both to “write in time” and “against time” (Back 2004: 204). Somehow the ethnographer needs to find ways of alternating between moving with participants, moving against them and finding points of stillness from which she can perceive the movement. She or he has to find ways of listening to and often *be* the two types of “storyteller” narrated by Walter Benjamin: the traveller who brings stories from afar and the one “who has stayed at home and knows the local tales and traditions” (Benjamin 1999 [1955]). The grounded storyteller can also retell stories of other travellers, which can only be gathered if one dwells at vantage points.

In order to do so, the ethnographer needs to find some stabilizing mechanisms. Without them, research is like what life events, plans, and journeys were for Jean Cocteau, when he was deprived from opium:

“Just as foolish as if someone falling out of a window were to hope to make friends with the occupants of the room before which he passes.” (Cocteau 1991 [1958]:)

For the French writer, opium made life a horizontal fall, providing the fixative that allowed him to engage with the events and people that life brought to and through him.

In my fieldwork, I found in the video camera that stabilizing device.

Filming as Framing Device

Filming fieldwork for future inspection is attractive. To frame research interactions in a limited time and space of moving images and sounds may give the ethnographer an illusion of having captured reality. But in my research project, the video camera worked

above all as a mechanism of engagement - a prop and a prompt for fixing interactions in moving situations. Only subsequently did it become an important device for recording data, but not without its perils. I will discuss the risks and limitations of the video camera as a recording mechanism, after introducing its interactive effect in fieldwork situations. To illustrate this double use of the camera, let me start by using AbdouMalig Simone's bi-semantic use of the word 'screen' (in Lury and Wakeford eds 2010).

In one sense the screen is an object - a bi-dimensional frame where moving images can be projected accompanied by sounds. Screens are not neutral devices; they invade people's lives and spaces, mixing images from disjointed contexts, materialising conundrums of postcolonial cities, starts Simone (2010a: 208). This is true especially in cities of Brazil where television is a constant presence in any public, semi-public, or private space. In research, the use of a camera as a recording device produces data that will demand a screen to be visualised. I have at times circumvented this technological imposition by doing things such as extracting the sound for listening back to informants' discourses without the need to have a screen in front of me, or by saving screenshot stills – which I could then embed into the text of this thesis.

But a screen can also be a movement:

“To set a screen in basketball refers to a teammate inserting their body between the shooter and a defender momentarily creating space and time for the player to get a good shot off. Always as a tactical manoeuvre, screens can be called and anticipated in advance, yet in a fast-paced mobile game, where they take place in any given instance on the floor they are difficult to plan. With moving bodies always in close proximity, always in ‘each-other’s face’ the chances of a getting off a good shot is directly related to having a good look at the basket, and so the screen in service of such a look.” (Simone 2010a: 209)

Simone uses the metaphor to illustrate the manoeuvres of residents in crowded cities of Africa to make space, stop the flow, enact interaction, generate opportunities and to counter what is the urban ideal of western cities: the fluid circulation of people and things through prescribed and safe routes. In the urban South:

“Particularly in situations where once relied upon mediations grow weak, where clear interpretations of what is taking place are difficult to make with confidence, and where individuals feel they have few opportunities to make recourse to higher authorities or arbitration, individuals set screens all of the time. They insert themselves in the flow of events, transactions and conversations to create space, to become that which ‘comes to be looked out for’ or a means of enabling a changed outlook on the part of others.” (ibid: 212)

My video camera recorded data from the field that could later be inspected on a screen. During fieldwork it also helped me set screens, stop the circulation, and make space for interaction with participants. It helped me relate as much as it sometimes detached, it gave a sense of protection to then expose me and force me to engage. I learned how to use it through the process, through mistakes, whilst reviewing the images and sounds it captured. I kept developing my understanding of its power and limitations whilst transcribing, writing up and preparing to write this very chapter. In the beginning it caused a few unsettling situations. Let me share two of those.

“Don’t film me or I’ll kill you”

I first visited Curitiba’s central cooperative in April 2010, after overcoming a series of bureaucratic hurdles. Firstly, it took a few days of telephone and email exchanges with the municipal environmental secretariat and the NGO that manages the *ecodidadao* project - the municipal project that includes 13 organisations of *catadores* in the city. Then

I needed to get special permission to make images from the municipal Communication Secretariat. Finally I was officially allowed to visit the cooperative.

I arrived at CATAMARE in the morning. After a couple of interviews at the co-op's office with the support technician and the president of the cooperative, I went out to the working area to get to know the space, talk to people, and do some filmed interviews.

After a few successful interactions with *catadores* I got a shocking reaction from a *catadora*. At a distance of about 10 meters she looked at me and threatened: "do not film me or I'll kill you". I apologized, approached her and tried to explain what I was doing. She came again: "I am warning you, I will shoot you". She said it in a serious voice, making sure that it was not taken for a joke. I did not exactly take her threats literally and I am sure she did not have a gun with her. But they conveyed her wish very convincingly, so I avoided pointing the camera at her.

At that moment, I very quickly realized that, despite all the bureaucratic regulations imposed by the municipal project, the normative landscape in the cooperative was in fact, in some way a mirror of the neighbourhood's. Almost all the members of CATAMARE reside in near-by Vila das Torres, the largest *favela* in Curitiba. The squatter settlement is a territory of informality ruled by the drug and waste trades. It lies along a dead river by which horses pasture, and self-built houses, shacks, and illegal recyclable waste deposits have pushcarts parked at their door. Murder stories set in Vila das Torres are very frequent in the press. The over-regulated space of the cooperative cannot possibly override the place where its members come from and go to sleep every night.

After some time talking to *catadores* in the working space, I was invited to join them for lunch. The mother of the *catadora* that had just threatened me - was down in the rota to cook that day. We ate a delicious rendition of the most common national daily meal: rice with meat and beans cooked in the pressure pot. During the meal I managed to improve

relations with the members of the coop, including with the *catadora* that had reacted in such threatening way.

The episode made me aware of the impact of using a camera in the research interaction. It is for me now clear that entering the cooperative space as a stranger, pointing a video camera at people was not the best approach, even though I was using it as a device for interaction, a prompt to start conversations. But it also triggered productive forms of interaction²¹.

After this event I became more careful with the use of the camera, but also more able to explore other possibilities. I understood that the use of the camera in the research setting did many things, but it was never neutral. In some cases the video camera made participants more talkative and performative as they sensed a possible outcome to their pronouncements. In others it was an obstacle to the development of trusting relationships. In my first day at CATAMARE, it was not until I put down the camera and sat down for a meal with the people in the cooperative that I managed to overcome the first negative reactions from some *catadores* and most importantly, develop long lasting research relationships. The video camera itself came to assume a central place in the research process as a way of reaching out to participants outside the semi-protected spaces of cooperative settings

Encounter with a *Catador's* Gaze

In my fieldwork, the video camera was at first a hiding place and later become a tool of rapport. In my first days in Curitiba, as I found myself reluctant to approach *catadores* on the street due to many preconceived ideas of danger, as well as for concern that my questions could be received as a pointless interruption of their working efforts, I started

²¹ It must be also noted that strangers wandering around with cameras is not an unusual sight in CATAMARE. I have been shown at least two small film projects that included footage in that cooperative.

to sneakily film them on the streets. One of those attempts to capture the work of *catadores* would change the course of my fieldwork. As I walked through a residential area, I saw a man rummaging through some rubbish bags looking for materials to load into his kombi van. I reached for the bag, took the video camera out and started filming. But I was too close and there was no one else in the sidewalk, so he had to look at me. As I met the *catador's* gaze, I realized I had to say something. I took a few steps towards him and said that I was making a film about recycling in Curitiba and I wanted to ask him a few questions. To my surprise he immediately stopped what he was doing and responded in more cooperative ways than I could have ever idealized. This encounter with Joel – his name – turned out to be of extreme importance to the development of my immersion in the field as I realized then that I had been trying to work under an imaginary invisibility cape, and especially, that this cover was not needed.

In the beginning of my ethnography I sought to be an invisible observer of people who are, in spite of their ubiquity, invisible to a big part of the city. This encounter broke the cycle I was being drawn into. It marked the way I approached all my subsequent street interviews, both regarding the use of the camera and in the way it shaped my simplified pitch. It is always difficult to explain what “doing research about something” means. There are other ways to approach participants and quickly explain the reason for the questioning. For example, Pablo Schamber (2008), in his ethnography of waste-pickers in Buenos Aires, found the formula “writing a book about *cartoneros*” to be the best. But it is still saying that you are going to transform people’s words and actions into an object that will be distant to them. On the other hand, “making a film about recycling in Curitiba” seems more immediately easy to relate to. For one thing, it makes the subjects feel like they are an integral part of a wider system, i.e., recycling in the city rather than just the target of the curiosity of a writer interested in an ore or less peculiar activity.

Furthermore, it gives participants a sense that they are involved in the construction of an object (a film), which they might have access to. In the end, the pitch was quite truthful, even if it did not revealed all the truth about my broader project - sociology, thesis, PhD, translation, data analysis, etc.

Audio-visual Data

As stated above, I finished my fieldwork with a big part of my data in the form of video recordings. Whilst analysing the data and writing up, I remember several times thinking about how good it was to have records of interviews accompanied by audio-visual data, which allowed me more detailed descriptions of the background, work settings, people's clothing, expressions, etc. The quality of the video is not always great as I always avoided having the camera between my eyes and those of my interlocutors. But the richness of the data contained in that footage is great.

These advantages come with some perils as well. They mainly have to do with the illusion of totality, and the distinction between video research and video representation (Pink 2001: 171). By incorporating moving images and sound and a frame that can cover more space than that of a still image, one is tempted to look at the recording as a piece of reality preserved. Obviously, no matter how much you move the camera, there is always something happening outside the frame that may be relevant. The same happens with time, which is a limitation shared with the voice recorders. For example, when I interviewed Honorato Saint-Clair, the chief attorney for environmental issues in Parana, at the headquarters of the Public Minsitry, I stopped my voice recorder 45 minutes after the interview had started, thinking that I had taken too much of a busy person's time. After I switched off my voice recorder and put it in my pocket, prepared to sayng goodbye, our conversation continued for more than 2 and half hours. Likewise in interviews both at the Labour Public Ministry and at the Municipal Environmental

Secretariat, I was asked to stop recording when I enquired about the mutual relationship between the two institutions. So the limits of what you can record in audio-visual media always leaves a lot outside the frame. Audio-visual material for its richness is even more prone to giving a false illusion of totality.

It is also important to think about the senses that the video-recording excludes.

Attention to smell, thermal and other tactile sensations, and taste can be even more easily side-lined by the power of the animated audio-visual recording. In many ways, to obviate to all these limitations, the field notes are essential. I ran to them when I left the office of the environmental attorney, the labour attorney, or the municipality, and every time I had to stop recording for lack of battery or digital memory. But even when I recorded profusely, the resource to field notes and active memory were essential to avoid the trap of totality.

Finally, in terms of the collection of data, the use of the video camera has another limitation – it prevented me from making more still pictures of good quality. I made some, which I include in the thesis, but I have a lot of images in my mind that I could have made had I not privileged carrying the video camera over the photographic one. This is a problem that could be overcome with different tools, which would certainly be much easier to gather now than then. The speed of technological innovation is also an important factor in the reflexion over the ethnographic present.

The uses I made of the footage can be divided into two parts. One is as recording material that was then analysed for its content. The other is as an instrument for producing materials to give back to research participants. I have produced a very short film, which I sent back to one of the *catadoras* in the cooperative. The film was viewed by the other members and allowed me to keep my part in an agreement for the collaboration and to support my distant relationship with the research participants. I am

also preparing another film from the material gathered in fieldwork to show back in Curitiba.

The awareness to both the possibilities and limitations of the use of video is essential to make the best use of the audio-visual data. It is far from a devaluation of its many epistemogenic possibilities. Furthermore it elicits the problem of the translation processes inherent to ethnography, which is particularly acute in the area of waste. Thus, the translation between audio-visual media and the textual account, but also the translation in the most literal sense of the word – i.e. between languages and cultures - assume particular relevance. Therefore, in the case of the present research project issues of translation arose at every level from less literal senses until the very problem of the translation between Brazilian Portuguese, my Portuguese Portuguese and the language in which I am writing this account - English. I will reflect on a few points related to translation next.

Beyond Comparison: Translation as Engagement of Systems of Value.

Since my first visit to CATAMARE, the largest and most central cooperative of *catadores* in Curitiba, one couple, who was sorting on their own at one of the tables, was particularly keen on talking to me. Especially the man, Francisco, was not only responsive to my requests and questions but he also seemed very keen to give his opinions, which were often unrepresentative of the rest of the participants. Maybe because of his eagerness to be in my research I was at first slightly dismissive of his incursions. At the end of my first visit he called me aside, asked me to switch on the camera, and told me a few messages that he felt important to convey.

He then proved to be a very resourceful informant, who would call me to accompany him in collection journeys and to tell me about relevant events. On more than one

occasion he told both me and other people in my presence something like: “what you are doing is extremely important. You are promoting an encounter between civilizations, carrying our culture to an academic language and the other side of the world.”

Discounting the exaggeration and the inflamed rhetoric with which Francisco would coat almost all of his pronouncements, this made me think that translation was one of the most difficult tasks I set myself to do, and that more than comparison, it implied engagement, communication and connection.

In its first life, this research project that now closes its cycle had been designed as a comparative study. I identified a fieldwork site in London, with which to compare the case of *catadores* and thus give an integrated sense to this journey. Very soon I realized that such a project was unnecessarily complex. It would force me to think about balance and give equal status to two sites. In the end it seemed to me that the comparative endeavour would do more to separate than to integrate the two research sites.

The two sites are present even if I were focused in one. Writing in London, to an audience that will examine this thesis in London, and being familiar with recycling as a migrant resident of this city would always force me to compare and approximate between the near and the distant, taking advantage of the tremendous evolution of ethnographic awareness since the primitive enterprises of imperial anthropology.

In the course of the journey, from fieldwork to analyses, from writing up to editing I realized that more than comparison, what I was doing was engagement. By engagement I mean making visible connections that exist in invisible material and in diffuse immaterial forms. As I write, the largest export of the richest national economy of the world (USA) to the upcoming second largest economy (China) is scrap (Reno and Alexander 2012, cf previous chapter). Likewise, stories of legal and illegal traffic of recyclable waste from the UK to Brazil have appeared several times in the news during

the last 10 years²².

Concomitantly, I have shown in the previous chapter how the circulation of a packaged idea of municipal recycling has trotted the globe, from the local community campaigns starting in the 1970s in the USA, to the first citywide experiences of campaigns for household separation and selective collection such as Curitiba's in the late 1980s and early 1990s, to its dissemination through the Global urban North, which is still coming to effect, despite its naturalized appearance. I have also argued that the particular configuration of the recycling circuits in Curitiba is a manifestation of what Santos identified in the 1970s to be the two circuits of urban economy. Those two circuits reproduce the hierarchies of global economies in the very space of the divided city contributing to the dependency of the city in relation to global forces and local forms of hegemony.

The integration between the (formal and informal) local and global circuits entrusts the ethnographer, travelling from and back to the North with the task of engaging two worlds in a single account. It is also the task of the ethnographer's journey to seek to integrate "the long and short haul mobilities" of urban life (Knowles 2011). Translation between geographical locations and languages is connected to the necessary translation between the language of participants and the language of academic inquiry.

There are several obvious examples of this difficulty throughout the text. In chapter one the discussion around my rejection of the usual term 'scavenger' in benefit of the self-accepted denomination of *catador* results from one of the dilemmas of translation.

Another dilemma related to the translation of slang and, more importantly, the decision as to whether or not to convey the unschooled grammar of most participants' utterances. If I was to reproduce their words in the original a native speaker of

²² Cf for example <http://www.theguardian.com/world/2009/jul/17/brazil-waste>.

Portuguese would, for example, immediately understand the contrasting academic experiences of someone like Francisco and other less formally educated *catadores*. I sought to compensate my inability to translate to that detail with complementary explanations wherever they were relevant.

Conclusion and Ethical Cautions.

The emphasis put here in serendipity, unsettlement and engagement of different systems of value demands an important caution. That the researcher must be aware of potentially harmful consequences to the research participants, be they in the form of disclosure of sensible information and opinions or of placing informants in situations, which their more vulnerable positions may not stand. In the fieldwork process, awareness to the power imbalance between someone that will return to the safety of the academic office to write an account, and those who will stay in the face of the events we are analysing from afar, is critical.

Back in London, maintaining contact with some of the participants was crucial to the process of writing up. In these transactions, I could fine-tune the interpretation of some of the experiences on which I am reflecting here. The audiovisual materials were important here as editing short films and sending them back to informants helped me maintain some bonds with the field.

What started as a comparative project converted into a work of engagement. As I mentioned in the beginning of this chapter, one of my informants, Francisco, used to tell me that my work was to bridge two different civilisations. His perspective is clearly hyperbolic, but the fact is that ethnography in a distant place, especially in an age of apparent global proximity, has to grapple with the need to address differences without exoticizing. It also has to translate without discarding the differences, which may be elusively subtle. Before travelling to Brazil for fieldwork, a Brazilian friend of mine living in London had told me: “as soon as you land in Brazil the probability of you dying will increase considerably”. When in Brazil, the profusion of violent crime, the proximity of poisonous spiders, a relationship with different expert systems, regulation, and risk management, confirmed my friend’s half-joking warning. But as the illusion of safety and

peace that took hold of a big part of Europe after the second World War threatens to reveal a non-eternal face, we may have to turn to the South to learn how to live differently in our cities. Global epistemological and methodological circuits may have to be turned on their heads and, as Boaventura Sousa Santos defends, epistemologies (and methodologies) of the South may have to be foregrounded (Sousa Santos 2010).

In the end the form of this account and the fact that PhD theses are now easily available eltronically to wider audiences even before eventually going through the hurdles of formal publication, makes the writing more cautious in terms of the immediate impact what it says may have in the lives of the reasearched.

The next chapter begins the presentation and discussion of fieldwork data from an account of the informal collection of recyclables. It results from a particular attention to the forms of relationship with the city space engendered by labour. The chapter will discuss how an informal activity performed apparently in isolation has historically developed into an occupation with regular features capable of constituting itself as a coherent social entity with weight in individual life projects and in the history, geography, and economy of the city.

Chapter Three. Occupation: *Catador*



Figure 6 Catador organising his load by00 an evangelist bookshop at Ruy Barbosa square in Curitiba.

Tiago at the “zero-point”

On a wet Sunday of May 2010, I am passing by Curitiba's "zero-point" (the centre of the city centre). Right opposite the cathedral, on the square's pavement, a man stands next to a large pile of flat cardboard boxes, empty cans and a pushcart. I approach him to inquire about his work. It turns out that he is not the owner of the pushcart; nor is he the person who gathered that pile of material. He is an informal "car parker". Djalma gets money from car drivers and motor bikers by helping them with parking and by looking after their vehicles. Aside from this main activity, Djalma is also paid by a waste-picker to look after his belongings while he walks around collecting material. They live in different boroughs of Curitiba and meet here every day. Tiago, the 'catador', "is not here at the moment... but look! Here he comes".

*Tiago arrives with a few cardboard boxes, drinking from a fast-food takeaway cup. He has just resumed work as carrinheiro [a catador who collects with a pushcart]. He had stopped for a few years after a drastic drop in the price of recyclables in 2008-9. "The price of scrap metal plummeted from 40 to 5 cents", he says, "then **that** happens..." "That" refers to the events that made him lose all his savings. Here's his story:*

Tiago was working with 7 pushcarts. He would chain 6 of them in strategic spots near the city centre and then move one around to collect material. He would work through the night loading up the stationary vehicles, sometimes with the help of hired catadores. In the morning he would hang his bike on the pushcart, push it home and then pedal back to get the others. He had already saved R\$8,000 (c. £2,700) for a Kombi van. Then one day, he felt tired and left 3 pushcarts overnight in the centre. When he came back, they had disappeared, taken away by the local authorities. Furthermore, Tiago tells me, there was an unfortunate encounter with the police. "I had a radio and R\$500 in my pushcart. I was buying two small speakers... just to have a better sound in my pushcart. Two policemen arrived, I don't know wherefrom, accusing me of buying stolen goods. They took everything - radio, speakers and the money. I couldn't do much... But I told them: What the devil takes away, God will give me in double... I told them!"



Figure 7 - Tdiago's pushcart and collected materials on a quiet Sunday at Tiradentes square.

Tiago, only collects cardboard and aluminium cans, apart from loose scrap metal. The cardboard pays 25cent/kg, whereas the aluminium cans sell for 2 R\$/kg. Yesterday he made 122 R\$ in one load of more than 400kg. He paid 10 R\$ to two colleagues to help him transport and unload the vehicle and now he is relaxing. "You know, you also need to rest, otherwise you'll get old quickly, isn't it?" And after all, I think, it is Sunday and the whole city is moving slowly.

Tiago is 33 years old and originally from Cuiabá, the capital of the state of Matogrosso, some 1700 Km away from Curitiba. He first came to Curitiba in 1995 to work as a lorry driver assistant in a construction materials company. "When I was first in Curitiba I used to go around the city in a lorry and I'd see all the pushcarts. We had never heard of such a thing as recycling in Cuiabá. When I went back in 2001, I thought: I will return to Curitiba and work on that so-called recycling." And so he did. "I gathered some information, returned to Curitiba, bought seven pushcarts and started working hard", until the aforementioned events made him go back again in 2009. Tiago returned recently from Mato Grosso with a girlfriend. She works at the scrap deposit to which he sells in the Vila where he has his home, 5 km from the centre. "I pay rent but it's mainly to keep my belongings. I work through the night and sleep in the pushcart when I'm tired.

Introduction

"I love the occupation (*profissão*) of *catador*; I think it is a very beautiful occupation²³"

[Lia, *catadora*, talk at 'HSBC Systems', April 2010]

"My main message was that Accra's poor were not 'unemployed'. They worked, often casually, for erratic and generally low returns; but they were definitely working. What distinguished these self-employed earnings from wage employment was the degree of rationalization of working conditions... The 'formal sector' consisted of regulated economic activities and the 'informal sector' of all those, both legal and illegal, lying beyond the scope of regulation." (Keith Hart 2000: 149)

The two pages that open this chapter describe part of my encounter with Tiago. Among other crucial points, which will be teased out throughout the chapter, Tiago's story suggests that the occupation of *catador* is developed under conditions of acute insecurity and precarity. But the story also shows that it is not always a 'casual' and 'erratic' activity, as the classic understandings of informal work would have it (see Hart 2006, quoted above).

Collecting and selling recyclable waste is not always something that people do in order to make money for the next meal, for the next drink of *cachaça*,²⁴ or for the next rock of crack-cocaine. On the contrary, the occupation may be associated with the livelihood of families in the long-term, as well as with investments of monetary profits and emotional

²³ In the original, *Profissão*. This is not the place to develop a discussion on whether waste-picking can be considered a profession. "*Catador de materiais recicláveis*" is listed in the Work Ministry's Brazilian Classification of Occupations since 2002 (CBO 2002). Several *catadores*, such as Lia, refer to their activity as a "profession". Several academic articles do the same (e.g. Medeiros and Macêdo 2006; Sousa and Mendes 2006). However, we must be aware that the Portuguese word *profissão* has not been subject to the systematic academic inquiry that has been reserved to its most obvious English correspondent (see Siegrist 2001). In fact it is mostly interchangeable with *ocupação*. Therefore I am translating both *ocupação* and *profissão* as occupation.

²⁴ Sugar cane liquor - the Brazilian national alcohol or spirit.

aspirations. Tiago, for example, is always striving to develop his operation by establishing partnerships and investing accumulated capital. What is more, since he first noticed the pushcarts in Curitiba, he saw in informal waste-picking a terrain for the realisation of his entrepreneurial vision, erecting a relatively complex enterprise involving seven pushcarts and contracted labourers.

Thus, there is a need to rethink the temporality of waste picking as a circular-dissipative activity, which is prevalent in discourses on informal work as well as in the mainstream narratives of the city. In order to grasp the occupation's main features, one must work against the disappearance of *catadores* from the city.

As was discussed in the previous chapter, culture and history is constructed through the disposal of different forms of waste - including people who work with it. Subsequent chapters will detail how *catadores* seek to counter this tendency to be wasted in the process of working with rubbish, through different forms of collective engagement. Before getting there, it is important to understand these dynamics through the interaction of individual *catadores* with the city and its waste economies. Tools, materials, and forms of knowledge, which are made regular over time, mediate this interaction.

The occupation of *catador* defies classical definitions of informal work and its functional opposition to formal employment. On one level, this happens because the occupation has become central to the life of the city and to the biographies of many of its 'professionals', as well as to their notions of self-worth. Processes of "incessant convertibility", which foster open-ended forms of collaboration, result in "stabilizing a social field of interaction" and become a "coherent platform for social transactions and livelihood" (Simone, 2004: 410). Through tactical engagements with the city and its resources, people constitute themselves as infrastructure (ibid). On another level, the

formal/informal dichotomy is reshuffled by recent evolutions in ‘formal’ work relations, as the latter are also increasingly marked by flexibility, precariousness, and informality.

Keith Hart (2010) has recently reflected on the history of the term “informal sector”, which he coined in the early 1970s. One of his conclusions is that the concept has moved away from its origins: the unaccounted forms of employment of Africa’s urban poor migrants. Notions of informality are increasingly used to describe vast areas of the developed world, especially in the transition from Keynesian state capitalism to the 1980s wave of “neo-mercantilism” (ibid). De-regulation as defended by neo-liberal politics makes labour relations less formalised.

Medeiros and Macêdo (2006) follow on Ricardo Antunes (2008), among others, in identifying the expansion of the tertiary sector, the retraction of formal wages, and the flexibilization of contractual relations as general trends of recent decades. The result has been the replacement of labour law and other forms of labour protection, by notions of employability and by demands for academic qualifications, polyvalence, autonomy, initiative, and competitiveness (Medeiros and Macêdo 2006: 64). In many ways, informal labour “is not the ‘other’ to formal labour: it is now the model for what is left of labour with formal relations” (Oliveira 2004: 11, quoted in Bosi 2008: 106).

In the light of these developments in labour relations, which seem to deem formalisation a distant, if at all desirable, goal, what room is there for *catadores*’ aspirations and for their affirmation, through labour, as “subjects of value” (Skeggs 2011)? Furthermore, how do *catadores* juggle demands to participate in the urban economy with aspirations to change it – a drive that is inherent to the very environmental critique structuring their legitimising discourses? In other words, may the work of collecting and selling recyclable waste under informal systems of production and exchange contribute to the dismantling of dominant regimes of value?

As detailed in the previous chapter, the exploitative articulation between the ‘autonomous’ ‘self-employed’ work of ‘scavengers’ and the formal capitalist organisation of production has been a central topic of theoretical contention amongst academics concerned with waste-pickers (cf Sicular vs Birkbeck debate in chapter one). As I also discussed in the literature review, the present thesis seeks to enlarge the narrow frame imposed by the aforementioned debate. However, my aim is to do it without losing awareness to the longer and less visible strings that connect capital and labour (Bosi 2008: 113).

By choosing to concentrate, at this initial stage, on the relations of individual *catadores* to the city and its history, to the material elements of their work, and to the temporality of their biographies and daily routines, I am not suspending that awareness to structural systems of exploitation. I am, rather, exploring the spaces of autonomy, the possibilities of self-valuation, and the opportunities of meaningful engagement with the urban life opened by this type of work. Just like the peripheries of São Paulo may, according to James Holston, provide the space for the affirmation of an “insurgent citizenship” through self-built neighbourhoods (Holston 2008), urban waste may also provide opportunities for the urban poor to make their place in the city whilst shaping it. In both cases, lower rights of citizenship open crevices that are ceased and changed by disenfranchised populations through autonomous forms labour. The aim of this chapter is to describe how *catadores* pursue these opportunities and the ways in which the city makes this pursuit possible, but also invisible and tantalizing.

Structure of the Chapter

The extraction of recyclable materials starts with collection, separation, and classification of discarded objects. Thus, specific circuits involving people, objects, and materials start being formed. Curitiba has its own particular configuration of circuits, resulting from a

peculiar climate, geography, and history, combined with many commonalities with much of urban Brazil. This chapter introduces *catadores* and the circuits they begin to weave in the city. It provides an ethnographic description of their work, tools, and relationship with the city. It is divided in four sections.

The first section focuses on movement and circulation. Here I will present the various vehicles used by *catadores* in their collection journeys.

The second section concerns space. The attention is directed to *catadores'* uses of urban space as a ground for social interactions and work processes.

The third section reflects on time and temporality. I start with the work rhythms of *catadores* in articulation with the city, which in many ways are at odds with notions of speed that are dominant in capitalist production. Then the history of the occupation in the city is inspected. Finally, the place of recycling in the life stories of research participants is discussed. For many, waste-picking appears as a transient part of their lives; others regard it as a lifelong choice, or entwined with their whole biographies. Some see in waste-picking room for dreams and aspirations, fostering a notion of a professional career; others make bettering their condition depend on doing something else.

In the conclusion of the chapter, I look at *catadores'* labour in dynamic relation to their claims to resources, value, and citizenship within urban life. Here I will reiterate the crucial point of this chapter: that the political struggle for a place in the city starts in the labour process itself and in the skills it mobilises. The ways in which *catadores* claim part of the value generated from waste occurs primarily through the very work they do and through the ways in which they do it. This realisation, I argue, makes labour an important part of the process of affirmation both of *catadores'* personal aspirations to a place in the city's economy and of the occupation they perform as a part of city life and

history. The latter elicits the need for collective engagement, which the following chapters will unpack.

Circulating through the City

Until 1989, when the sanitary landfill of Cachimba opened, Curitiba's rubbish was indiscriminately dumped across the metropolitan area. By then, places like the infamous dump of Lamenha Pequena (11Km to the NE of Curitiba's centre) used to attract many *catadores*, dubbed *garimpeiros do lixo* (rubbish 'gold-diggers'). The situation resembled what happens as of 2011 in Rio de Janeiro's dump²⁵.

Many cities in Africa and Asia have similar informal configurations of waste movement. Here is, schematically, how it happens. The city government, often through contracted companies, carries all the waste to a large open area, usually in the outskirts of the city. Around it, an army of urban poor build slums with materials taken from the rubbish heaps. From those heaps they extract all that they need to live. They also extract recyclable materials to sell to middlemen, who operate, and in most cases regulate the work, on the spot (Medina 2007; Millar 2008). Materials are then transported to other recycling intermediaries whilst the *catadores* themselves stay put.

In Curitiba this kind of picking is not possible. The local sanitary landfill of Cachimba doesn't allow *catadores* in the premises. When I visited the landfill in May 2010, two armed guards patrolled the working area - the open top of the rubbish hill where rubbish trucks unload and the caterpillars spread and compact the materials under swarms of vultures and other birds (see images below). As my guide told me, "they are there 24 hours a day, seven days a week, to ensure that no *catador* has access to this area". Despite the amount of valuable materials that reach the landfill, the collection of recyclables in Curitiba is done before waste reaches the landfill. Therefore this collection is done inside the city.

²⁵ The dump of Jardim Gramacho, situated in the metropolitan area of Rio was popularised in several films such as *Wasteland* (Meireles, 2010) and the stunning *Estamira* (Prado, 2000).



Figure 8 - Armed security guards in the working area of Cachimba Landfill, April 2010.

In order to save recyclable materials from permanent burial under the debris of metropolitan activity, *catadores* move through Curitiba seeking to reach rubbish bags before the trucks of the municipal contractor and before other *catadores*. Every day they rummage through waste bins of households and shops, in order to set in motion and transport into market circuits part of the remains of urban consumption. Through these

circuits, these materials will eventually reach the status of raw material for different industrial processes.

In Curitiba many people sort recyclables at home, in the hope that they are collected and recycled by the local authority. In 2008, the municipality of Curitiba (through private contractor CAVO) collected 15000 tons of recyclable waste (source: IPPUC, 2010).

According to the municipal "department of public cleaning", this figure represented just 19% of the estimated total of municipal waste recycled in the same year in the city. The other 81% start their recycling journey through "informal collection".

Catadores are initially responsible for most of Curitiba's recycling rate, with which the city tops national ranks. These figures are far from robust, although the fact that it is the municipality who produces them is in itself very relevant. Even more uncertain is the number of *catadores* working in the city. The municipality's figure for the total number is 3600. I have heard estimates as disparate as 10 000 and 25 000²⁶. From talking to different people and experiencing the field, it is clear to me that 3600 is unrealistically low and 25000 seems to be an over-estimate. Whatever the real number, the fact that *catadores* and informal circuits are responsible for an overwhelming majority of all the recyclable materials extracted from Curitiba's waste offers no reason for contention.

Who are these 'informal' collectors? How do they perform this collection? What means do they use? Where do they work? What strategies do they deploy in order to increase their capacity to collect material?

Being paid by weight of materials collected, *catadores* make use of different instruments in order to realize sufficient income. The first question that they have to solve is the one posed by the opposition between mobility and capacity. They need to move through the

²⁶ The same happens for the whole of Brazil: some say there are 70 000 in all the urban areas of Brazil (IBGE, the national statistics agency - http://www.ibge.gov.br/home/estatistica/populacao/condicaodevida/pnsb2008/tabelas_pdf/tab021.pdf) . Others estimate in over 1 million the number of *catadores* in Brazil (Bosi 2008)

urban space in effective ways. They need to access several points where the best materials are generated, at particular times of day, withstanding traffic and land relief, adjusting their pendular or circular routines to the points of final sale and private residence. All of this they do whilst carrying as much material as possible in the most compact form.

The present section is about the movement of *catadores* with their loads through the city. I open with a brief reflection on my own encounters with *catadores* on the streets, which has relevant consequences to the argument of this chapter, followed by a description of the different vehicles that they use.

Street Encounters

"One feature salient in my passive observation of street life was the almost complete absence of interaction between the *papeleiros* ['paper-pickers', another word for *catadores*] and the other permanent and nomadic denizens of the streets of Porto Alegre. (...) The lack of interaction induced me to approach the reality of the garbage collectors [*catadores*] with a certain caution and to adopt an indirect approach." (Coletto, 2010: 63)

In Curitiba, I came to encounter a reality very different from the one described above in Diego Colletto's ethnography of *catadores*' organisations in the capital of Rio Grande do Sul. True, in the beginning of my fieldwork I spent most of the time passively observing, trying to sneakily film and photograph, apprehensive towards the idea of approaching *catadores* on the street. They really appeared confused with the landscape, ghostly figures "that other people did not notice... invisible... as if they were an integral part of the urban environment" (ibid: 55). It seemed like their activity only attained meaning in political and organisational spaces such as cooperatives, municipal offices, or Waste and Citizenship Forums.

Throughout my fieldwork, though, I managed to change this perspective. This happened from the moment I started talking to *catadores* on the streets. At first I was over-conscious and apologetic for the fact that I was interrupting, stopping, delaying, and being an element of friction, an obstruction to the flow. The *catadores'* reactions to my first approaches increasingly eased my worries in this respect and allowed me to tacitly negotiate longer exchanges.

Thus, I found out that an important part of their work actually comprises networking at street level²⁷. Moreover, these first interactions made me understand that, if different vehicles empower *catadores* in different ways, this is because they improve range more than because they increase speed. The ability to get farther away is more important than the ability to go faster. For leisure may actually be intercalated in the work day. The control over the rhythm of production is something highly cherished by the *catadores* and the capacity to stop when they want to speak to whomever they want seems to be understood as a major advantage of the occupation. The routes of *catadores* are always permeated by many pauses. Regardless of the vehicle they used, I never encountered a *catador* that made me feel that I was obstructing their work. Notwithstanding the fact that this is, generally, an extremely demanding job.

Vehicles of Mobility

Insofar as vehicles used in collection, we can divide the *catadores* in three groups. Vehicles propelled by human energy compose the largest one. The most common of these is by far the pushcart, with its internal variety in capacity, design, detail, and add-ons. In the self-propelled group there are also some *catadores* who use bicycles to pull their carts. Then there is the group of vehicles with animal traction. Finally there are the

²⁷ Many *catadores* mobilise different capacities of social capital. Amongst others, they routinely interact with NGO operators on the ground, shop owners, local residents, porters, other *catadores* and other street informal workers (like prostitutes, beggars, car parkers, street vendors and drug dealers).

engine vehicles, of which the most prevalent is the Volkswagen camper van. Some *catadores* may also use a normal car to collect and transport materials. In the automobile category we may also include trucks used by cooperatives and associations to collect materials donated by public organisations. I will next present some images of the different vehicles, illustrating them with short descriptions and a few case examples. I will spend more time describing the pushcart, the most emblematic and frequently used vehicle of the *catadores*.

- Pushcarts (*carrinhos*)

"Propelled by human traction, the *catador's* pushcart oscillates, out of place, between the pedestrian's space on the sidewalk, where it is incompatible for its weight and span, and the city's streets, where it is incapable of accompanying the automobiles' speed." (Fonseca, 2006)²⁸

"I usually say that we now drive Ferrari because I remember when we had wooden wheels and when the wheel broke, we had to stop and it was very difficult to change." [Lia, talk at HSBC systems, 11 May 2010]

Pushcarts may appear to vary little within their vehicle type. Their constant presence in the city conveys a sort of "blasé" perception from its citizens (cf Simmel, 1903). Except on the many occasions in which, by causing friction with the urban traffic, *carrinheiros* impose physical contact with the rest of the city, the degree of interaction with passers-by is nearly non-existent. Therefore, the variety of devices and functions attached to pushcarts may pass unnoticed to the majority of observers. Apart from a metal grid box to hold the load, two wheels, and a handle-bar at the front to apply traction, the basic technology that every pushcart ought to have is a breaking pad. It is the main element that escapes the first impression of the pushcart; yet it is essential. Once it is fully loaded

²⁸ My translation.

the cart may be difficult to lift and set in motion, but it is even harder to stop, as I could experience for myself.

The paraphernalia of accessories that are added on to *carrinhos* may be more or less functional in terms of production. Rear mirrors are a feature on some. Some have music, like Tiago's. Others have ways of doubling as a place to sleep, since *carrinheiros* often sleep over in the city centre. Thus pushcarts become the only shelter from the harsh and uncertain weather of Curitiba. This is also important when there is the need to transport children who accompany *catadores* in the pushcart (see figure below)



Figure 9 Ivonete, with her father-in-law's wife, Carmen, and her stepdaughter, Isabel (sitting, legs hanging from the pushcart), at the end of a working evening.

Other kinds of techniques are deployed in order to increase capacity. If the metal grid that holds the load were too tight or too high, then the cart would become too heavy and unmanageable. Therefore, *carrinheiros* deploy a technique called "the wall". Using cardboard sheets and broomsticks, they build up a vertical box that contains bags further up. Finally, there are all sorts of hooking devices attached to the top of the pushcart's structure allowing the *catador* to hang various objects, from buckets to plastic flagons.

Aside from what the *carrinbo* may offer as storage, other skills to customise carts, honed by experience, allow for more valuable loads to be attained. The capacity to pre-sort and organize the load, laying down cardboard sheets first, the use of the feet to compact the cardboard, and the way the bags are placed on top of it, are some examples of those skills.



Figure 10 A woman helps a *carrinheiro* lower his pushcart, which is too heavy for him.

Carrinheiros may carry up to half ton of material. When the cart is heavy, they lower the *carrinhos* using their weight in order to set it in motion. *One carrinheiro* that is not heavy enough to lower the pushcart has to have a partner to help him by the end of the evening when the cart is full (see figure above); then he can carry on, on his own. A more dextrous *carrinheiro* can jump from the top of his load directly into the pulling area, using the momentum of his descent to lift the *carrinbo* and cushion his fall on the ground. Moreover several specific skills are essential to push the vehicle across the busy traffic of the city.



Figure 11 Evaldo carrying 400 kgs on his way home.

In terms of ownership, the situation is also varied. Some *catadores* own their pushcarts; even more than one in some rare cases. Other *catadores* use cooperative's carts. A large number of them rent the pushcarts from deposit owners, which implies that they leave the deposit in the morning owing to the person to whom they will sell. Ownership of a pushcart is a central element in degrees of exploitation from middlemen. In chapter 4, on market circuits, this issue will be developed.

- Bicycles

Bicycles are not nearly as common as pushcarts but they are also used in some parts of town, where land relief allows. In projects developed by NGO's in other cities of Brazil the bicycle-propelled pushcart is presented as a future improvement for *catadores*. In Curitiba it is not highly popular due to its hilly topography.



Figure 12 Sérgio, catador on a bike drawn cart.

- Horse-carts (*carroças*)

After pushcarts, the most common vehicle used by *catadores* is the horse-cart. This form of locomotion covers larger distances with less physical effort. It carries loads of more than 800 kg, which is nearly double the capacity of the largest pushcarts. While having the added inconvenience of demanding care for the animal, the horse-cart represents an improvement for *catadores*. Like *carrinheiros*, *carroceiros* can also claim a reduced environmental impact in the collection of recyclables. This is an important point for an occupation that uses the "green agenda" as a leverage point. *Carroças* are likely to be ridden by multiple elements of one family (see figure below)



Figure 13 *Carroça* with 2-year-old Cauane (sitting at the front, not very clear) waiting for her parents.

- Kombi Vans

As for motor vehicles used for waste-picking, the most common one is the kombi van. In Brazil, the Volkswagen Beetle is the quintessentially popular car. Its success derives from the fact that it is cheap and reliable. Its equivalent in the van segment is the Volkswagen camper van, known in Brazil as "Kombi". At the back, Kombis can be either open, like a pickup, or closed like a van. They may carry up to 1200 kgs or more, depending on the materials and the way they are accommodated.



Figure 14 Joel in Santa Felicidade, the first *catador* I interviewed on the street.

The first *catador* that I ever approached on the streets of Curitiba was in fact a kombi driver. His name is Joel and he was rummaging through a rubbish bin outside a house. For several years he had pulled a pushcart, before he managed to save some money to buy his van. He lived in a city in the outskirts of Curitiba and the van allowed him to cover most of Curitiba's borough of Santa Felicidade, where I met him. He would then transport the materials home to be sorted with the help of his wife and sold to a local deposit (informal middleman). He had never worked for an association or cooperative. He was very intrigued with the oscillation of prices for the materials. He told me that before people started talking about the world crisis, the prices were much higher than they are today. Then there was a huge drop and now they are recovering, but they are still far from what they were before 2008. "I always fear when the price of some material is high, that it might be about to plunge again". Fortunately for Joel, he managed to save money to buy the van before this crisis.



Figure 15 Francisco and Fabiana with a full Kombi.

On the contrary, Francisco and Fabiana have never worked with any vehicle other than a kombi van. They had a completely different professional route and started working with a kombi in the cooperative CATAMARE. Their downwardly-mobile life history and their academically punctuated speech set them aside the other *catadores* in the cooperative, who mostly have in common a poor educational background and socio-economic origin. The fact that they own the only van in the cooperative accentuates the distinction²⁹.

Owning a kombi van means that one has managed to invest some capital, acquired either through scavenging with a *carrinho* or by working in other jobs. As I heard from several *carrinheiros*, buying a kombi van is a tantalizing aim for many. We have seen, for example, that Tiago has always worked with the aim of saving some money to buy a kombi van. After losing everything and starting again, he still believes he can do it.

²⁹ Francisco and Fabiana will return later in this chapter when we speak about social capital and spaces of work.

New Arrangements of Mobility

By joining associations or cooperatives, which are the focus of the next chapter, a small fraction of *catadores* manage to ameliorate their work conditions. In these improved workspaces, *Catadores* are also reconfiguring their mobility. One part of the workforce in each cooperative is composed of waste-pickers like the ones described above. They collect their materials with different vehicles and bring them to the workspace in order to be sorted, weighed, and sold. The other part of the cooperative's membership is composed of those who only work inside the warehouse, "in the collective", separating the materials that are donated from public or private institutions. These "new *catadores*" who sort materials indoors are predominantly female. The unbalance replicates the gendered division of labour between collecting and sorting that exists inside many families of non-organized *catadores*. Inside the association's workspace, there are also the workers in charge of operating the balers, which is a function that involves specific skills, usually performed by men. Finally, there might also be some people in charge of driving the trucks - if the association possesses them. In most cases the lorries are hired along with the driver from an external company. These vehicles are used to collect the loads from the donors and to carry the finished bales to the final buyers.

Regarding mobility, the "new *catadores*" who work as separators inside the cooperative spaces have a similar situation to those who work in rubbish dumps. They are both stationary, whereas the waste material moves through their workspaces. The huge difference lies in the space where they work. It is separated from their home and from the bulk of organic waste that flows to the landfill. It is organised as a work place *for catadores* rather than a place to dump waste where *catadores* also happen to work, and it is organised under cooperative principles.

Speed, Flow, and Friction

My own encounters with the research participants on the streets of Curitiba, as well as the ways in which they develop their instruments of mobility, reveal forms of relationships with movement that add new perspectives on narrow definitions of efficiency, especially the ones introduced by dominant versions of recycling. I am suggesting that there is some sort of disagreement between mobility in *catadores*' terms and notions of mobility as idealised by discourses of industrial efficiency and speed.

The previous chapter discussed this point in relation to Brennan's idea of an increasing "speed of acquisition" typical of a stage of capitalism that is "exhausting modernity" (Brennan, 2000). This particular notion of speed and efficiency translates into ideological models of recycling as self-sustainable cycles qua "end of history" (Adams, 2004). Such a perspective ties in with the opposition between ideas of network and flow (Urry 2000), on one side, and notions of meshwork and friction, (Knowles 2010, Ingold 2011) on the other.

Speed, of course, is space over time, and these two variables are in the titles of the next 2 sections of this chapter. The ways in which *catadores* move through the city space, in order to flow, but more importantly to engage, and the temporalities of these interactions will help us begin to understand how this type of work presents an opportunity for generating different sets of values, and what those might be.

Working in the Urban Space

In order to understand *catadores*' particular forms of engagement with revaluation of waste it is important to understand how *catadores* interact with the urban space as workspace. From the city centre and its attracting power, several patterns of commute generate lines of connection with the different *favelas* where most *catadores* live. For the *catadores* who collect outside the centre, in the city's boroughs, the movements through space follow different patterns, involving door-to-door communication and more disperse movements, rather than rushes to the same areas. In both cases, social capital (in the sense taken by Bourdieu) is an integral part of work - *catadores* need to interact with different people in order to customise routes and suppliers. This customisation is essential because *catadores* have to cover a lot of ground between points of supply.

In order to account for the human dimension of the relationship to urban space, this section will also focus on different forms of social interaction observed during the working journeys of different research participants.

Informal Commuters

The city centre has a very strong attractive power for *catadores*; being the centre of consumption, it produces the largest quantities of the most valuable waste materials. For this reason, Djalma and Tiago, who live in more or less distant neighbourhoods, meet every day in Tiradentes square, one parking cars, the other gathering recyclable materials and establishing occasional collaborations.

Likewise, in the morning, and more so in the late afternoon, thousands of *carrinheiros* rush to the centre. Along the more than 5 kilometres of straight roads that connect the two largest *favelas* of Curitiba to the central squares and streets, empty pushcarts form impressive processions. They come from *Vila das Torres*, where 9 000 families live; and from *Vila Parolin*, which has 6 000 residents (source: IPPUC). The Waste and Citizen

Institute estimates that at least 2/3 of the residents of those two nearly central *favelas* live off the waste trade. Not all of them are *carrinheiros*. Some use other vehicles. Others work in middlemen's deposits. A minority are middlemen themselves. But thousands of them bring their pushcarts every day and move part of the waste produced in the centre into the *favelas*.

Work in the Centre

On a warm Tuesday in November, I accompanied Lia on a full collection day. She was working with Adriana, who carried a smaller *carrinbo*. Lia paid Adriana to be her assistant. They covered the 4 km between the cooperative and the centre, stopping at few shops to collect some cardboard and at a few known locations to open a few rubbish bags. When they got to the centre they parked the two *carrinbos*, one on each side of a shopping arcade that runs under a high-rise building. From this hub, the two women collected from a few selected spots and, opening bags on the street, filled the two carts. Then they pulled the carts back again stopping occasionally, to eat a hot dog and to top up the *carrinbo* in a few "worthwhile spots".

Lia had been working in the centre for five years. Before that, she used to work in the residential boroughs.

"It was painful. It was very hard because you have to walk around a lot. You never stop. Here in the centre I park the pushcart there and don't move it till it is full. It's so much better". [Lia, 2010]

Despite the hard work, the fact is that from the rubbish bags of only one high-rise building, Lia extracted materials to fill more than half of her pushcart, and as Lia said, "it is very good material". *Catadores* refer to the recyclable waste collected in the centre as "noble material" in opposition to the material collected in the other *bairros* and in even

starker opposition to what is collected in the outskirts. The quantity of more expensive materials makes the central bins more attractive.

Therefore, many *carrinheiros* push their vehicles on long journeys to the centre and can be seen sleeping in their carts at dawn. On the other hand, the ones working in the boroughs around the centre, having to collect house by house, along endless streets, always finding areas that have been covered by other *carrinheiros*, or having to race with the municipal collection service, have to spend much more physical effort in order to build up their load.

In this scenario, *catadores* using vans or horse-carts have an enormous advantage.

Francisco and Fabiana drive their kombi van to distant places of the municipality and beyond it. They usually drive to locations where they have already arranged to collect, stopping on the way wherever they spot some worthy material. Both in the neighbourhoods and in the centre, with whatever vehicle, the knowledge of the city and of particular forms of interaction with its other inhabitants is essential for *catadores*.

Social and Cultural Capital

On a sunny Sunday in November 2010, I accompanied Francisco and Fabiana on a collection job. Throughout more than two hours driving to the place, and from there to the civic centre that they drove me to at the end of the day, the couple told me part of their life history and plans. They also showed me the different places where they could collect along the way, were it not for the fact that the van's capacity was entirely needed for the material stored in the house we were going to. The house belonged to a friend of Francisco who gathered recyclables from the neighbourhood and kept them in his garage for him.

The connection between the two men dates back to the time when the owner of the house had alcohol and drug addiction problems and Francisco worked as therapist in a

rehab community. In the house's backyard, under the spring sun of Curitiba, we were surrounded by coffee trees, sugar-apple trees, dozens of flowers in different stages of development aligned in different containers, experiments with natural fertilizers, and several animals growing healthily. The well-kept garden, mini orchard, and animals stood as living testimony to the man's robust and long-standing rehabilitation. He repeatedly expressed his enormous gratitude to Francisco for his achievement. The effort he makes to keep the materials for the now *catador* is a proof of that gratitude. In his garage, covering all the space over an old car waiting to be repaired, there are piles of cardboard boxes, plastic bottles, tetra pack cartons, some of which show evidence of rat bites, which have been waiting for Francisco and Fabiana. He noted that they took longer than they were meant to, but he showed no expression of complaint. Francisco had been waiting for an opening in his schedule and would preferably choose a sunny day so that he and his wife could enjoy the house and the company of their friend. So the work takes longer than strictly needed, amongst Francisco's availability to answer my questions and the host's stories and tours of the house, garden, and surroundings. It is Sunday, and the bond between these two men is an essential part of the transaction that is taking place. Fabiana sits in the sun for most of the time, visibly enjoying herself.

Francisco tells me that he collects from many regular places, often following appointments with their owners. These sorts of arrangements are essential, especially for *catadores* who work in the peripheries, to guarantee that they do not travel too much in vain. Some associations devise programs, like "adopt a *catador*", in order to promote these arrangements and solidify relationships with residents. There are also the so-called *carrinhadas*, in which some *catadores* visit houses in the neighbourhood, to distribute information about recycling, waste separation, and the importance of donating to *catadores*. Associated arrangements play an important part here.

Arrangements of this type are also relevant for different reasons to the ones working in the centre. Lia established and made use of all sorts of contacts. On her collection day, after parking the pushcarts, her first stop was at an NGO that looks after street prostitutes. The woman in charge “is an old friend”, announced Lia before we knocked on the edoor. She gave Lia a few boxes of objects, clothes and children’s books, which Lia sorted between what was material to sell and what were objects to keep. Lia’s friend also showed us some craftwork made by one woman who built beautiful decorative objects out of old *tetrapack* cartons³⁰.

The next big collection point was at a high-rise building where the porter always waited for Lia before laying the bags outside the main door in the shop gallery. Lia transported and piled them up next to her pushcart and as she opened the bags to extract what was valuable to her, people from a few shops around would come and bring paper, cardboard or unsorted waste.

Other sorts of local networking capital were important in order to solve several problems occurring throughout a day in the urban centre: from the sheer security of the pushcart, left for short periods vulnerable to theft by other *catadores*, to the vital need to replace a missing broomstick to build “the wall” on the pushcart. After many attempts to borrow one, which included requests in shops and shouts to neighbouring windows, a local resident finally arrived with the required broomstick, allowing Lia to load up another meter on her pushcart.

On the other side of the social interaction there is competition, which may also be tackled through attempts at building steady arrangements. At 7 o'clock Lia walked to the other side of the University building, to check “a very good lot of material” that was about to be unloaded from another high-rise building. A couple of *catadores* were already

³⁰ Lia took her contact details in order to arrange a workshop for the cooperative members.

there. Lia spoke with them in a polite but slightly sarcastic guise. As we walked back Lia explained the deal. "I just came to check if they were there. In fact it is their turn to get the material. They collect in one week and I collect in the other." She is not very happy with the treaty they established:

"The right thing would be: whoever comes first gets the material, because, being in the street it doesn't belong to anyone, isn't it? But, what's the point in fighting?"

A final set of interactions occurs in the form of leisurely activities that go beyond the strict work routines. The photo on **Figure 16** was taken at *Rua Quinze*, the city's main pedestrian street. It shows a *carrinheiro* who stops to enjoy the performance of a busker, playing the accordion. The image shows aspects of *catadores'* working lives that are usually less acknowledged: the ability to stop and choose their rhythms and routes, their openness to random urban interaction, and their interest in different aspects of the city's culture. *Catadores'* sensitivity and attention to the city's architectural icons is well documented in a research project using 'photovoice' methodology. Amaral (2001) gave cameras to *carrinheiros*, in order to produce a reading of the city through their eyes. The author expected to obtain narratives that opposed the official imagery of the model city. Indeed, many of the images produced show parts of the city that do not fit into the dominant discourses about Curitiba. There are images of the hardships of their working life and of the insalubrious conditions of their private spaces invaded by the waste of their trade and by the waste, which is their trade. But there is also a profusion of images of Curitiba's icons of beauty, and images that illustrate the shared belief of the city as a "first world" or "ecological" city.



Figure 16 A *carrinheiro* stops to enjoy the music performed by a busker in the main pedestrian street of Curitiba.

The pride in belonging to a city that ranks high in environmental indicators is shockingly contrasted with the living environment of most of the participants in this research. The images produced by these *carrinheiros* also shows how they have some degree of freedom to escape the fixed routes of the urban commutes ascribed to most of the working classes, thus subverting the hierarchy of spaces.

Let me provide a few more anecdotal examples from my fieldwork in which the use of the city's space for work promotes particular forms of urban sociability.

At one point in Lia's workday, she is given some food by a catador, who Lia introduces as friend and neighbour. She eats it alone but I suspect he would be joining her if it weren't for my presence. As I try to approach him he shows reluctance in talking to me. We bump into him several times and it becomes clear that their routes intersect routinely in leisurely and social ways. Moreover, things like buying loose cigarettes in newsagents or eating a hot dog on a corner

frequented by dozens of carrinheiros in the evening, punctuate the day with yet other types of familiar social interaction.

As the evening falls, before moving the pushcart from where it was stopped for most of the afternoon, Lia bumps into a transsexual woman who tells us sad and funny stories in succession, making us laugh and empathise for a good twenty minutes before we take off back home. Near the cooperative, on a crossroads from the centre to the main favelas, on two days each week, a few women working for a charity serve soup to carrinheiros at the price of 1R\$ each. This provides a large gathering point for carrinheiros before their last stretch home. They are not there on this particular evening.

It is 9 o'clock, through the now dark streets that surround the cooperative, the traffic of overloaded pushcarts is intense and slow. A few of those pushcarts head towards the cooperative. Most are going to the near-by favelas. They will stop by private houses or at middlemen deposits where they will sleep. Wives and children may start unloading some of them as they get home, sorting bags of cans, tertrapacks, aluminium, cardboard, and paper to sell to a middleman next door.

In this second section of the chapter I am exploring *catadores'* significant relation with the urban space. The first section of this chapter concerned mobility. As I hope to have made clear in the previous chapter, the object of this thesis demands a mobile approach, in order to account for the moving boundaries that separate rubbish from value. Production and revaluation of waste takes place across moving structures. *Catadores'* work builds and takes place on those social structures. At a physical level, their work involves moving materials across the city in order to disentangle them from other rubbish and put them on paths to revaluation. *Catadores'* work makes them travel routinely through the city in ways that may seem to other residents as disengaged or

detached. Yet, if one walks with them, observes them, and listens to them, one can envisage a profound relationship with the city's social geography.

At the end of the day, *catadores* take the product of their collection to their homes or to cooperatives to be separated. At this point a new set of questions arises regarding the selection of materials, segregation of urban space, and separation between home and workspace. These issues are considered in the last part of this section.

Separated Spaces

In the classic *Purity and Danger*, anthropologist Mary Douglas (2002 [1966]) defines dirt in relative terms. For Douglas, dirt is matter out of place. Things are deemed impure and demand cleansing or disposing of, according to particular classificatory systems. These systems are located in space, time, and social orders; therefore, the definition of dirt can be multiple and even contradictory.

Catadores never refer to the materials they collect as rubbish, whereas the people who throw them away most probably do. They use the expression *recyclable materials* or simply 'materials' to refer to the source of their livelihood, whereas all that is finally thrown away after the sorting process is called *rejeito* - a somewhat technical term translatable as 'refuse'. The materials are then separated in categories; the more the categories, the better the return, for a finer separation can isolate the most valuable materials from less expensive 'contaminants'. In cooperative settings, *catadores* may deal with fifty different sorts of materials, which have to be rightly identified, placed, and sold.

Urban Segregation

The rejection of the word 'rubbish' by waste-pickers becomes all the more understandable when one thinks that most *catadores* sort and often store the materials they collect in their own homes. This creates the first separation of spaces in relation to

waste: between a city that is known to be very clean by Brazilian standards and its *favelas* where the city's refuse is piled up everywhere.

Walking through the small “*Vila Bom Menino*” or the huge “*Vila das Torres*”, both squatter settlements located along the banks of important streams, one can see the piles of blue and black bin bags occupying the whole landscape: overflowing from deposits, on loaded trucks ready to depart, on pushcarts, at houses’ doors. The streams run decrepit, in suspicious colours and viscosity, punctuated by flowing objects. The waste of the city is continuously moved into those slums, some of them almost completely dedicated to the waste trade.

Material Separation

According to the labour theory of value developed by Ricardo and Marx, labour is the human activity that adds value to objects and materials. *Catadores* add value to waste by three basic actions (none of them typically productive in Marxian terms): selection, classification, and transportation³¹. One of the most important ways through which they can add more value to materials, thus extracting more gains, is by dividing and classifying material into more categories. When *catadores* bring their pushcarts to the middlemen for their load to be weighed in bulk, they will receive much less than when they sort the material themselves. Most of the time, this separation happens at home.

The basic separation has three categories, as Tiago, the *catador* from the opening of this chapter, has shown: aluminium cans, paper, and scrap metal. Often the categories include plastics. If this is the case, transparent PET (disposable water bottles) will be the most valuable, followed by crystal PP (fresh milk bottles or juices). Other materials are more difficult to sell, such as the copious metallic take-away food containers (*marmitex*), tetrapack plastic (juice cartons), and polystyrene. When middlemen conduct the finer

³¹ Though Marxian theory does not take these actions as production

separation in their space, they manage to reserve a bigger proportion of income. Most *catadores* can only get that greater income by using their private spaces to store and sort materials, which attracts rats, cockroaches, dengue mosquitoes, and all sorts of threats to the health of their families.

The few that join associations of *catadores*, dramatically improve their work conditions and income, as will be detailed in the next chapter. One of the most important improvements resulting from the move to associative work is the separation of workspace from living space.

Living Space from Workspace

The distinction between home and workshop appears as an important stage in the improvement of *catadores'* conditions. There are three stages in this process. Firstly there is the *catador* who lives and separates in the middlemen's deposit. They are often in a state of near slavery. Their workspace is their living space and the person who exploits their labour controls both. They probably don't have a home of their own. When, in a second stage, the coincidence between workspace and living space occurs in *catadores'* homes, the situation is closer to the many micro familial enterprises that weave the fabric of Brazil's informal industries. The important difference is that working with rubbish brings into the house other forms of uncontrollable elements, namely serious health related threats. The third stage is the separation of home from workspace.

Associations or cooperatives provide those separate workspaces. I will reveal more about the different spaces that typically host these organisations in the next chapter.

So, separation is key in this process. Whether they sort materials in cooperative spaces, in their homes, or in the middleman's deposit, *catadores* usually perform a more or less careful pre-selection of materials on the streets. This involves opening bin bags, or even household pre-sorted recycling bags (relatively rare), on the streets. Lia and Adriana, for

example, do a quite careful pre-selection because they always fill up their pushcarts and want to avoid carrying valueless material as much as possible. This activity can generate some mess on the street and it is a critical moment in the perception held by the city in relation to *catadores*. Lia and Adriana, at least when I accompanied them, revealed an acute awareness to this problem, and I could observe that they always carefully closed rubbish bags once they had extracted all the materials that they found useful. They were also very cautious not to spill any dirt on the pavements. In any case it is difficult to keep the area tidy because other people tend to use the agglomeration of rubbish bags around *catadores'* impromptu working area to drop off valuable stuff as well as to unload or wash dirty bins.

Counter-Fordist Recycling

My own initial difficulties in accessing participants in the field and the surprising responses I encountered, as well as the many other moments of interaction of these working men and women with the city space, reveal how notions of circulation may diverge from principles of speed and fluidity, which are at the crux of ideal visions of industrial mass production and dominant systems of recycling alike. In so far as a growing speed of acquisition is essential in capitalist destructive dynamics (Brennan 2000), speed is also contradictory with the environmentally justified activities that promise restoration for the inflicted destruction. Recycling is an example of one of those proposed remedies, which adopt the shape of the very problems it is meant to counter.

On the contrary, access, range, knowledge, flexibility, adaptability, and control provide a different set of criteria under which *catadores'* capacity of circulation through urban space is constructed. Thus, the resistance to the Fordist model of production is produced through the construction of alternative models of production (Sousa Santos 2006; Medina 2007).

The Fordist model of industrial production imposes fixed positions for labourers in a “cyborg” structure – one in which human elements articulate with technological mechanisms in a system moved and paced by mechanical engines. The seductive power of the assembly line is also reproduced in the implementation of fixed routes and rotas for all sorts of urban systems of provision. Recycling is an example of this, as the idea of “the treadmill of production” proposed by Weinberg and colleagues (2000), suggests. Recycling collection by *catadores* clearly rejects these principles of circulation, space, and speed. It also rejects the fragmentation of work and the appropriation of labourer’s knowledge imposed by Taylorism. Whilst the central aspect of Taylorism is a minute analysis and imposition of essential movements and times of labour, *catadores* develop their own forms of temporality in relation to work and the city. The following section will dwell on these temporal peculiarities.

Time and Temporality

As shown above, *catadores* collect at different times of day and night, despite the fact that regulations on disposing in the centre impose a tendency for the concentration of work to occur in particular hours of the evening. For the same reason, sorting usually takes place in the morning or in the beginning of the afternoon.

Catadores also establish weekly routines. On Sundays, the majority of the city's commerce is closed and activity, especially in the centre, is greatly reduced. Cooperatives and associations of *catadores* are closed on Sundays. Some open on Saturdays, following pressure from their members. Especially on Sundays, the movement of *catadores* in the streets is significantly reduced, in both quantity and intensity.

Simmell (1903) wrote about the city's imposition of the clock and time as a necessary principle of calculability and synchronization of the interchanges that had opposed the "sovereign human traits and impulses which originally seek to determine the form of life from within instead of receiving it from the outside in a general, schematically precise form" (Simmel 2010 [1903]: 26). A similar sort of tension may be observed between *catadores'* common rejection of impositions on routes and routines and the normalisation of work schedules and procedures that the city pushes on to them. Notwithstanding the necessary and difficult harmonisation between workers who strive for independence and the city's circular cadences, *catadores* (many of whom are recent immigrants from the State's countryside) manage to maintain and prize some control over their own pace and rhythm of production. Even in the cooperative space, where a new layer of collective synchronisation is added, *catadores* defend their prerogative to work slowly if they so want, or faster if they need to or feel like doing so. Thus, the system of payment is set so that *catadores* are rewarded for their output, which generates huge discrepancies in the cooperatives' pay sheets.

The Occupation in Catadores' Biographies

Lia has been a *catadora* since the age of 11. As she told an audience of one hundred at the HSBC systems office, she had to start working with her two brothers (they are triplets) because of family hardships. Living in *Vila das Torres* since she was born, the opportunities to work as *catadora* were the only ones arising. The illegal drugs trade is the other dominant economy in the *Vila*.

Adriana, who works in the cooperative's "collective" sorting donated materials, is usually subcontracted by Lia to help in her collection workday. Adriana moved to Curitiba 5 years ago coming from the coastal town of Matinhos. She came to work as cook or cleaner until she met another *catadora*, "who indicated this job" to her. "Now I thank God for that". Adriana is very articulate, as Lia is. She is highly involved in the cooperative and in the National Movement of *Catadores*.

In the association of *catadores* *ACAMPA* I found some different ways in which the occupation intersected *catadores'* biographies. The majority of its members work only with donated materials. Many are former *carrinheiros* or people who worked in middlemen's depots. Teresa used to work in a one of those depots (typically semi-informal) certified by the municipality to receive the recyclables from the formal collection. According to Teresa, her boss used to buy the material from the municipality. Marta and Rosineide used to work together pulling a pushcart. They used to have a common routine amongst *carrinheiros*. They would collect from 6 o'clock in the afternoon till midnight. Then they would sleep until the early hours of the morning, then unload and sort at home. Finally they would sell the material to middlemen. Their move to the association was less motivated by monetary gains than by the possibility to avoid the risks of working on the streets at night and the uncertainty of income inherent to

their previous activity. Thus they find, inside the same professional area, a way of using their skills and experience in an improved working context.

On the contrary, Francisco and Fabiana, who work in a different cooperative (CATAMARE), have only lived exclusively off recycling for one year. The beginning of this activity coincided with the death of Francisco's mother, after a prolonged bout with cancer, which followed a similar misfortune of Fabiana's mother. The cost of the treatments forced the couple to sell all their possessions and "start again". They now make about 1800 reais (around £600) every month. According to them this is not enough for a life with dignity. Yet they believe in recycling as an area of activity with potential for economical and personal development. Fabiana is a trained teacher and the exploration of activities of environmental conscientization is in the couple's short-term plans. Francisco, who has run businesses of goldsmithing and gold prospecting, says that before he was much better off financially but was not happy because his true vocation is to work with "human issues". The work as *catador* offers that possibility to Francisco. He is a rehab therapist. He went through rehab himself years ago and became a counsellor. He says he uses recycling as therapy. When he roams the streets collecting materials, or when working with colleagues, he approaches addicts and tries to bring them to his side. As he told me, this has happened in four different instances since he started working as *catador*. Francisco believes that therapy is like recycling - reclaiming waste is like redeeming people from addiction. It's like "recycling lives", he muses. The couple is also studying parapsychology at University level in order "to understand life", explains Francisco. "We have been studying it for four years and we still haven't understood anything", he laughs, before concluding: "But it is very good and rewarding".

On a trip to a scrap yard, transporting a load of metal from another association (Vida Nova), one of the men with whom I shared a lorry cabin explains the possible future

business that he is considering. A company proposed to Carlos that he install a bailer inside their premises in order to dispose of all the cardboard boxes they produce. He is seriously considering the proposal and, while we wait for the truck to be weighed, the other men get involved in the arithmetic speculations about his potential earnings. They get increasingly excited and adopt dreamlike interjections and infinite gazes. The only difficulty Carlos envisages at the moment is financing the bailer. But that does not prevent the group of men, including the professional truck driver, from reinvigorating their faith in the potential opportunities arising from their occupation.

Catadores imagine many ways out of low-income situations. Many of those imagined paths include working in the area of recycling, seizing opportunities that cross their paths because of the kind of work they do. This is not to say that there are not *catadores* who wish to abandon working with waste completely. Some have told me they want to do that. However, the general idea that this is hideous work where some people are trapped because they cannot find anything else is far from universally confirmed. The ability to envisage better futures inside the profession of *catador* is unsurprisingly favoured by their presence in an association. The fact that the situation becomes better only instils the feeling of potential for improvement. Furthermore, the collective work, with the possibilities it brings of conviviality and interactions in a less exploitative and competitive environment, augments the exchange of ideas and opportunities, enlarging their horizons of possibilities. In some cases, as in Lia's, it might even allow a feeling of professional satisfaction that is rare in most jobs.

In a central street of Curitiba, as she was eating her packed lunch next to her pushcart, Lia told me that she would not like to do anything else and was proud of her work, in the sense that she was contributing to the general good of the city. Lia is one of the top earners in the cooperative and is highly involved in its politics, giving talks and doing

other jobs involving external representation and aspects of organisation. One of her daughters works with her, separating the material in the cooperative. She is embarrassed to go out with her mother but is quite involved with the cooperative work, sometimes doing the highly responsible job of weighing the materials and recording the weights in the books. However, Lia does not want her younger son, who is in school, to become a *catador*.

“It is not because it is a less dignifying work. It is because it is hard. And he knows it, because he has done it with me. I also don’t necessarily want him to be a doctor [doctor in Brazil means a person with a graduate job] or anything really – only God knows what he will become. But *catador* is a very hard job and I am doing everything I can to give him better chances” [Lia, HSBC systems 2010]

The Occupation in the City History

Since time immemorial cities have generated their own ‘scavengers’, ‘rag-and-bone men’, collectors of cardboard and paper, etc. In Ancient Roman, Amerindian cities, and in Medieval and Modern Europe, large parts of the population survived by collecting wasted materials (Medina 2007: 21-25). These occupations tend to change with the modes of production and migratory flows. In Brazil, the 1970s brought about new consumptive and industrial patterns that created new opportunities for the overflows of migrants who converged to the cities (Santos 2005 [1993]).

Entwined in the job of collecting the most durable traces of urban consumption, ‘scavengers’ do little to leave their own mark in the history of the cities they inhabit. In Curitiba, the marks of the history of *catadores* in the city space are null. The only visual evidence I found of past *catadores* was in an exhibition at the Museum of Contemporary Art. A set of pictures from a demonstration organised by a situationist group in 1984

shows a group of *carrinhos* (Figure 17) aligned in one of the main squares of Curitiba. *Catadores* are absent from spatial manifestations of the city's history. This invisibility is concomitant with the above-referred 'transparency' of the people who collect the largest part of the city's recyclables. Furthermore it echoes the silence of *catadores*' work in the official discourses about Curitiba's successful recycling performance. The constitution of an archive that could trace the historical presence of *catadores* in the city would probably be an important step to break this cycle of exclusion.

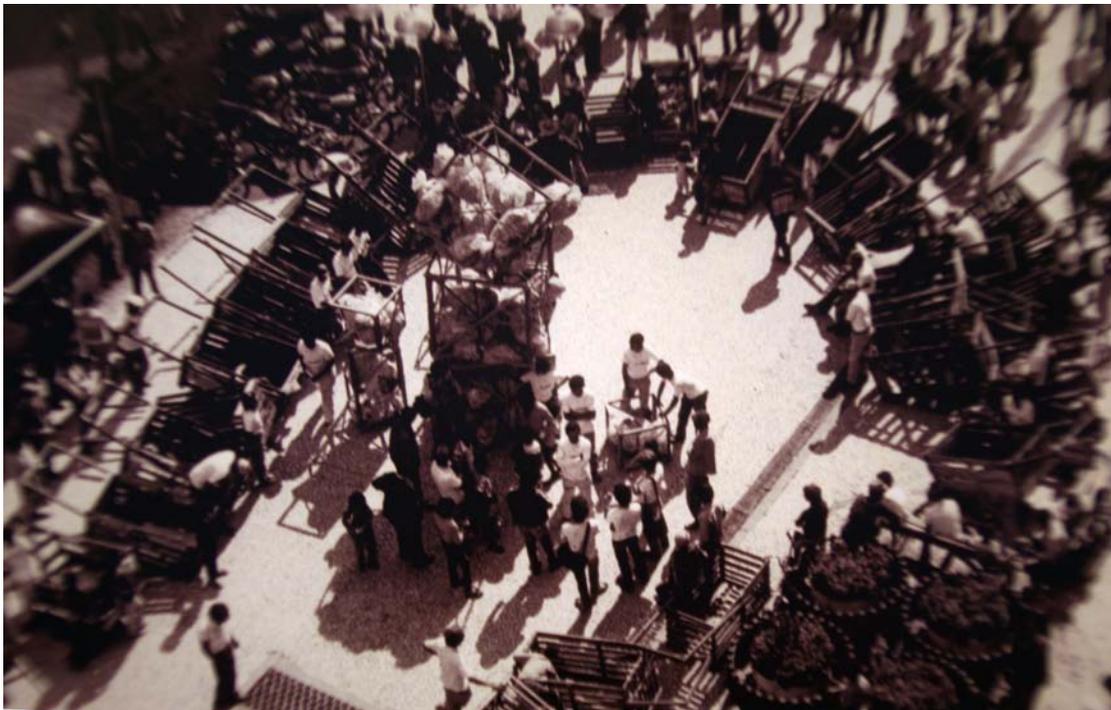


Figure 17 pushcarts and *catadores* in 1984, mobilised by a situationist group for a 'happening' in the centre of Curitiba addressing issues of social inequality (Photo of a photo exhibited at the Museum Oscar Nyemier).

Through local newspaper archives and present testimonials, it is possible to trace the evolution of *catadores*. Thus we know that up until 1990 the dump of Lamenha Pequena was full of people mining the rubbish. Other research projects may also provide useful sources for signs of *catadores* in the city. Vinicius Massuchetto carried out an extensive research in the State's Library. The oldest newspaper article mentioning *catadores* he

found dates as far back as 1983. It is based on a story reporting research carried out since 1980 with a family of paper pickers. In the same year, 1983, newspapers reported a proposal by the municipal administration to employ 300 *catadores* in the dump of *Lamenba Pequena*. The low wages offered were at the basis of the rejection. In 1989, there were reports of the first public demonstrations of *carrinheiros* against the start of Curitiba's famous program of municipal recycling "*Lixo que não é Lixo*". The way the conflict was portrayed in the media is evident in the title quoted in the beginning of this thesis: "*Catadores Don't Want (Mayor) Jaime Lerner Picking Their Rubbish*" (Massuchetto, 2007, 28). The sense of competition with the newly created system of municipal recycling, and the instituted systems of informal recycling, was blatant. The following years brought frequent political tensions between *carrinheiros*, shop owners in the city centre, and the municipality. The mayor tried to conquer *carrinheiros* to his side by meeting with them to propose support initiatives. These moves only made things worse as they consisted of useless and sometimes offensive offers, such as high visibility vests, brooms and dustpans, license plates for the pushcarts, and compulsive registration for *catadores*. All these constituted, in fact, attempts to restrict and control their activity. In the following years those moves were seconded by threats to apprehend non-licensed *carrinbos* and to do the same if they circulated in the centre before seven o'clock in the evening. In 1994 Mayor Rafael Greca proposed the first real program of support, offering pushcarts to hundreds of *catadores*. These were sold at symbolic prices paid in instalments, in order to create a bond with the municipality. This program was seen as capable of breaking the first link of exploitation with the middlemen who owned most of the vehicles. Again it was followed by a number of directives like the use of visibility jackets and bureaucratic registration.

Throughout the 1990s, many new organisations of *catadores* appeared in the city. The democratic constitution of 1988 allowed this process, which culminated with the

creation of the National Movement of *Catadores* in 1999. In 2008, the municipal project *Eco-Cidadão* promised the creation of associations involving 3600 *catadores* in 4 years. I will come back to this point in the following chapter about the organisation of *catadores*.

Conclusion: Autonomy in Want of Organisation

In this chapter I presented ethnographic evidence of *catadores*' work in order to account for regularities in the occupation that counter the idea of informal work as a dissipative activity. In order to do that, I gathered data from workers who I met and observed on the streets as well as from others who I accompanied through longer periods. Amongst the latter is Lia. Her testimony makes apparent the importance of the occupation as a definitive element of *catadores*' notions of self-worth and pride in their 'profession'.

I am not claiming that this is the case for all *catadores*. What this demonstrates is that there is, at the very least, the existence of an occupation that has attained a stable and regular existence outside of the individual and precarious experiences of it. It is an occupation established through history, providing not only opportunities for livelihood but also a sense of self-worth, and some leverage to engage in the struggles aimed at establishing a political existence inside the city. The evolution of this conjunction of tactical moves into a proto-profession offers the possibility of 'getting a foot in the door' that leads to more secure forms of participation in urban life.

Open-ended forms of collaboration between people, thus constituted as infrastructure, may not sit comfortably with the idea of perfectly closed loops based in efficient circulation. If nothing else, *catadores*' permanent resistance to bureaucratic conformity and control over work procedures grounds them in autonomous notions of temporality and spatial relations with the city. Thus informal recycling generates its own conundrums.

Yet, the circulation of *catadores* through space leaves traces through time. It is possible to see, in the very relationship of waste-pickers' bodies with the city, its spaces, and its materials, the potential capacity to resist the imposition of univocal systems of value.

This relationship generates friction and engagement with the city, rather than clean networks of flows. It also constantly frustrates individual *catadores* in their attempts to improve their life conditions beyond the level of precarious survival. The association of these labourers with dirt is reinforced through various ways, and thus they tend to be swept away by the formal city's historical dynamics. In order to defend alternative notions of value, whilst foregrounding forms of meaningful participation in the city's life and narratives, collective forms of strategic action are required. The following chapters will delve into those forms of integrated action, starting with labour cooperatives and proceeding into the fields of markets and the state.

Chapter Four. Socialising Waste: Recycling Cooperatives



Figure 18 A catador with his dog, waits to cross the street one of the principal accesses for pushcarts from the main favela to the centre of Curitiba.

At the Association of Catadores, “Friends of Nature”

“Ms Nair used to cook big pots of soup to attract everyone to the meetings on those cold nights”, Juarez is telling me. “Yes, it was July”, adds Ms Nair with a nostalgic gaze. “July... 2009?” I throw in. “No! Two thousand and... seven”, they correct me. “We only managed to constitute the board of directors in 2009 and started work here in the beginning of this year”, Juarez clarifies.

It is November 2010 and we are at the right side of the main entrance of the Association Amigos da Natureza (Friends of Nature), a large warehouse where recycling work takes place. On the left hand side, there is a row of meeting/ office rooms, mirroring the ones next to where we stand. In the middle, there is a low platform for lorries to load and unload. Looking inside the building, at the beginning of the long rectangular working area, one can see several large full bags on the floor. They contain the refuse from the sorting work and are awaiting the delayed rubbish collection. At the corner, a baling-machine stands next to a few parallelepipeds of compacted plastics. Further in, grid containers for the different sorts of materials rise nearly up to the ceiling. On the left hand side, metal working tables, at which catadores sort out the materials, are aligned perpendicular to the long wall. Shiny new yellow pushcarts are parked by some of the tables.

Amigos da Natureza is one of the thirteen organisations of catadores in Curitiba that are part of the municipal project Eco-Cidadão (Eco-Citizen). I am visiting the association with the two social workers who oversee all the existing groups and initiate the formation of new ones.

Juarez is one of these two social workers. He is slim and energetic, with grey hair and grey goatee beard. He looks younger than his 51 years. He wears glasses and a ruck sack over his white t-shirt with the logo of Eco-Cidadão. He studied sociology but dropped the degree for a job as social worker. He has just introduced me to Ms Nair - the president of the Association - and we now talk by the water cooler, whilst several people pass into and out of the office door nearby.

Ms Nair has a pleasant smile and, although youthful, she is a sort of maternal figure. Her skin is tanned and well looked after, her facial features defy standard ethnic divisions, and her hair is dark with white streaks. She wears glasses and a green vest with the word “catador” at the back and the logo of Eco-Cidadão at the front. Juarez is helping me conduct the impromptu interview.

Ms Nair never thought of herself as a catadora. “I just got into this to help the guys here”, she explains. Nair’s husband was a carrinheiro³².

“He used to bring the full cart home and I would help him organise. I don’t like to see things untidy, so as soon as he dropped the cart I’d start separating and sweeping the floor...”

³² Catador with a pushcart – from carrinho=pushcart.

Juarez intervenes:

“I used to tell Dona Nair that she was a catadora herself, because she helped organize the materials and the workspace, which is a very important part of the job”.

Juarez and Ms Nair got in touch through two social workers that had met her husband on the street. “It all started with the dog...”, the president of the association starts telling me. Juarez interrupts to explain: “Like many carrinheiros, her husband had a dog that accompanied him in his collection workdays”. “Yes,” continues Ms Nair, “they asked my husband something about the dog and that started a chat. At one point my husband joked: ‘I have a woman at home who is a pain, she wants everything well organised’. ”

She laughs. “Then a few days later, they came to my house, they gave the dog some vitamins and after a while it got so much stronger...” Juarez was then introduced to the couple and they started using their house as hub for the formation of the association. “Juarez would bring me the printed invitations and I would distribute them across the neighbourhood.” “Then her house started to be too small and so we moved to the church, and then to the school”, explains Juarez. “Sometimes, when I get through these gates, I still can’t believe that we’ve made it”, says the woman. “Yes, Dona Nair, you are ‘guilty’ of all this”. They both laugh

Introduction

In the previous chapter, I argued that ‘*catador*’ is a clearly distinguishable occupation, which has developed in historical parallel with the precarious conditions faced by the professionals themselves. Simply by doing their work, and responding tactically to the challenges posed by the city and its powers, *catadores* have built a set of regularities. Yet, the absence of stable connections with their peers, as well as instances of state regulation, tend to expose single *catadores* or small familial units to poor work conditions, urban insecurity, social devaluation, and economic exploitation. Furthermore, these absences impede the construction of visible collective memory and weaken or annul the ability to participate in the city’s discussions about the future of waste management.

Many see labour cooperatives as essential pieces of a more strategic plan to improve and stabilise the lives of *catadores* in the city. This chapter addresses the question as to whether this is the case. In accordance with the argument of the thesis I will be looking for the limitations and possibilities opened by labour cooperatives, particularly in opening ground for effective change beyond the mere integration of *catadores* in a ready-made circuit. As the sociology of waste shows, these openings may arrive from unattended and/or generally devalued social dynamics. Hence it is necessary to look beyond the official discourses.

The story of the creation of *Amigos da Natureza*, which opens this chapter, shows crucial elements that constitute these organisations. First of all, there is the transition from independent to organised work. As discussed in the last chapter, home plays a pivotal role here. Although the president of the association *Amigos da Natureza* did not see herself as *catadora*, she nevertheless used to do an important part of her husband’s job. When he arrived home to unload the pushcart she would help him sort materials and clean his workspace, which was in their house. The same house was later used as a focal

point for the group meetings from where the association arose. Now that it is formed, its members don't have to take the waste materials home.

Another crucial element in the associative movement of *catadores* is the participation of external agents. The interview between me, the social worker of *Eco-Cidadão*, and the president Ms Nair suggests the determinant role of the municipality in the formation and reproduction of associations of *catadores*. Finally, the description of the setting where the interview took place introduces some of the essential non-human components of these organisations: from equipment to physical space. One of those material constituents stood out in that particular situation: the accumulated waste of *catadores*' work contained in the rubbish bags awaiting delayed collection. The recycling cooperative is a space crossed by material streams. It critically depends on the capacity to attract, classify, direct, and expel different streams of materials in the most productive way possible. This capacity is essential to allow the fulfilment of the environmental, economic, and social justice aims of recyclers' cooperatives. These will be explained in the next pages. At the end of this chapter I will return to the refuse bags waiting to be taken away at the door of *Amigos da Natureza*. The next chapter will be concerned with the streams of valuable material that travel to market circuits.

The Chapter

What follows is primarily based on interviews and observations carried out in four associations and one cooperative in Curitiba and in two other associations in the neighbouring city of Colombo. Some of those visits were carried out in the company of two social workers of the municipal project *Eco-Cidadão*³³. Others demanded that I undertake more or less complicated bureaucratic processes for requesting authorisation from the coordination of the project. I visited some of these organisations repeatedly

³³ Juarez and Filipe referred to in the opening vignette.

over the course of 2010. As I developed trusting relationships with the *catadores* and support technicians, I could, in some cases, simply turn up on different days and spend time in the workspace.

Secondly, this chapter relies on data from interviews with officials responsible for *Eco-Cidadão*, both at the NGO *Aliança Empreendedora* and in the Environmental Department of Curitiba's municipal government.

Finally, I am drawing on findings resulting from my interviews with 'non-organised' *catadores* carried out in the streets of Curitiba. The issue of not belonging to a cooperative or association was discussed in almost all of these encounters. I will present some significant examples of those exchanges.

Structure and aim

The aim of this chapter is to present a picture of labour cooperatives of urban recyclers in Curitiba, paying attention to the different values that they generate. The process of the organisation of *catadores* aims primarily to counter the exclusion of *catadores* from the recycling markets to which they contribute. In the process of conquering space in the urban economy, other processes that may generate social transformation may be set in motion. Thus, through collective organisation, *catadores* may become agents in the economy rather than merely individuals able to generate limited opportunities for their own benefit.

This chapter is composed of 4 sections. It begins with the blurred distinction between associations and cooperatives. The discussion provides an opportunity to introduce one cooperative and three associations, understand their dynamics, and grasp the particularities of labour cooperatives in waste recycling. In the remaining portion of the

first section I locate these associations and cooperatives in relation to theoretical maps of labour cooperativism.

Section two discusses the needs from which recycling cooperatives arise and the issues that they seek to address, concentrating on organisations as cooperatives of production and consumption. It will focus on the reasons for joining cooperatives, from access to new sources of material to the separation between home and work. Section three, called Obstacles, will address some of the reasons why the vast majority of *catadores* still work independently, thus facing worse conditions than their “organised” colleagues.

The final section concentrates on the birth of associations, dwelling on the organising meetings of the latest association of the municipal project. As the most recently formed group meet up in an empty factory-space, trying to collectively imagine and discuss how the new association will work once the space is filled with equipment and occupied by different sorts of people and materials, they dwell on the experiences of the other associations and imagine the possibilities for overcoming what sometimes seems like insurmountable hurdles.

Organisational Forms: Associations vs Cooperatives

The undefined distinction between association and cooperative makes life for recyclers' cooperatives much more complicated; but it also presents a productive terrain for creative positioning and political action. This section is divided in two parts. I start by depicting the problematic distinction between associations and cooperatives. In the second part of this section, I sketch a map of the field within which these cooperatives come about.

Associations and Cooperatives

The reader may have noticed that I have been referring indiscriminately to 'cooperatives and associations of *catadores*'. Many academic articles and books concerning these organisations phrase this distinction in a similar way, without ever explaining it (e.g. Gutberlet 2008; Bosi 2008; Gonçalves 2009). Likewise, much recent federal legislation in Brazil entails that "associations and/or cooperatives of *catadores*" be the beneficiaries of adequate disposal of recyclable waste.

According to SEBRAE³⁴ (the Brazilian agency for the development of small and micro enterprises) the official distinction between associations and cooperatives is that:

"Whilst associations are organisations whose goals are social aid, education, cultural activity, political representation, defence of class interests, philanthropic activity; cooperatives have essentially economic aims" (SEBRAE, 2011)

SEBRAE's document also explains the distinction pointed out by some research participants, namely, that associations cannot accumulate surplus and distribute it to their members. This happens because, since associations must have altruistic aims, the members are not owners of the association's patrimony. All excess surplus accumulated

³⁴ Brazilian Service of Support to Micro and Small Enterprises

by the association from its different sources of income must be reinvested in the estate, which does not belong to the members. In cooperatives, on the other hand, capital and other assets are owned by the members and they can decide to distribute any dividends among themselves or not, as in capitalist firms, in order to reward differential investment.

The difficulty in achieving a suitable bureaucratic classification of labour cooperatives of *catadores* arises from the fact that they actually bring together many of the aims that define both cooperatives and associations: social, environmental, political, cultural, as well as economic growth. Thus associations of *catadores* are in fact cooperatives disguised as non-profit organisations. But what are the main points of distinction between associations and cooperatives? Let's discuss two to them as they arose in the ethnographic data..

Capital and Assets

According to Edna Martins, president of one association in Colombo, the crucial distinction between associations and cooperatives is the fact that the latter can distribute annual surplus to their members. The associations' assets don't belong to their members, whereas cooperatives constitute their members as owners of estate and capital. Thus, Edna explains:

“The difference is that whatever gets into the association from the sale of recyclable materials has to be immediately distributed across their members. In cooperatives, they can distribute any remaining money at the end of the year, but we cannot. As for the rest, the association is the same as a cooperative.” [Edna, 2010]

Edna is a central figure in the community and in the association, so much so that it is difficult to envisage alternative leadership. Although the association has a name – the Association of the Separators of Recyclable Residues of Colombo - everyone refers to it as “*Barracão da Edna*” – (“Edna’s workshop”) or *Associação da Edna* (Edna’s Association)³⁵.

Edna says that they have no perspectives on trying to become a cooperative. But the entanglements of the bureaucratic forms of *catadores*’ organisations are even more complicated. To my surprise, she explained that she is a founding member of Curitiba’s only cooperative: CATAMARE³⁶. When CATAMARE was constituted as cooperative they needed a 2-year-old CNPJ (collective fiscal number). Because Edna’s Association had one since 2004, CATAMARE used their CNPJ to start off the cooperative in 2006. The possession of the fiscal number gave Edna’s association a sort of bureaucratic capital that she deployed to help another organisation and to establish a lasting connection with the core of the *catadores*’ network.

CATAMARE, the only organisation of *catadores* in Curitiba formally constituted as cooperative, looks just like any other of the organisations I visited, except for the fact that it is busier. It would take a very well informed observer to see members of CATAMARE as privileged. However, as Edna pointed out:

“They have everything: the support from the municipality of Curitiba and the best material because they are located in the centre of the capital city.” [Edna]

Moreover they are a cooperative, which means that members own the cooperative’s assets and they can deposit the surplus of their trade and distribute it when they so decide. Usually they do it near the end of the year, before Christmas.

³⁵ I’ve heard one of these two formulations from members of other associations, one middleman, and a jurist, and none of them could tell me the exact name of the association.

³⁶ Cooperative of *Catadores* and *Catadoras* of Recyclable Materials from Curitiba and Metropolitan Region

I witness this distribution as a problem in another association. Christmas is arriving when I am visiting association *Vida Nova* (New Life). Friday is the day for the general meetings in all the organisations that are part of the *Eco-Cidadão* project. On an upper floor of the Association's working plant, the group of *catadores* is gathered listening to the president, Simone Lisboa. She is talking about the need to start a *caixinha* ("small box") in the New Year in order to create a fund to distribute to the associates come next Christmas. They had many problems in the past with this sort of process and, as they reach Christmas time with nothing to even organise a Christmas party, they are trying to prepare for the following year. The amount of reassurances given both by Simone and by the *Eco-Cidadão* technician in order to encourage *catadores* to support the project suggests that the trust is low. In the end they vote and approve it, but there is the sense that this was easier approved than it will be done. If they were a cooperative, the problem would not be posed in the same way.

Apart from the bureaucratic distinctions, there are perceived differences, which may end up enacting the distinction that they believe to exist. One of them is the idea that, in cooperatives, work is more fast-paced than in associations. This distinction is laid-out in the example that follows.

Working Rhythms

ACAMPA³⁷, located in Curitiba's Industrial District, is an association on the verge of making the transition to cooperative. It is located inside the municipality of Curitiba, which means that it also enjoys the advantages of belonging to the *Eco-Cidadão* project. In fact, like eight others, ACAMPA was constituted by the project, with municipal

³⁷ ACAMPA stands for Associação de *Catadores* de Material Reciclável Protetores do meio Ambiente (Associations of *Catadores* of Recyclable Material Environment Protectors - the acronym also means 'to camp')

financial and logistic support and the permanent technical support of NGO *Aliança Empreendedora*.

For its president, Floriano Silva, the most important impact of becoming a cooperative will occur in the labour process.

“It is all going to be different. When we become a cooperative we will start ‘walking with our own legs’. It is true that *Eco-Cidadão* is going to support us until 2012, but we are going to start working under another system, in another rhythm. It is not going to be that much of a change, but the working pace will change. We are going to start selling to the industry, we are going to collect together and the rhythm of separation is going to change, that kind of change”. [Floriano Silva, 2010]

Other ACAMPA members reproduce the same idea about the difference between association and cooperative.

Working on the tables for the separation of materials, whilst everyone else was either away or having lunch, I find Jonas and Ivonete - husband and wife. They have worked in ACAMPA for less than one year. Before that, he was a mechanic assistant and she was working in a crockery factory. As Ivonete explains, “we both had a profession, but we dropped our previous jobs because we like what we do here”. The reasons for their choice relate to the fact that they “don’t have a boss, they can come at whatever time they want or leave without having to justify to anyone except themselves”. They are also attracted by the fact that they make more money than in “any registered firm, because here we do not have to pay taxes”. They want to stay as long as they can, although they are slightly apprehensive about the announced transformation into a cooperative. Ivonete shares her thoughts on the announced change: “We have never worked in a cooperative. Now that they say that this is going to turn into one, we are going to see. Now we each work for one’s self, then we will need to see how it goes, they say it will be a different system of work.”

A process of attribution is at work in the way both president Floriano and the couple Ivonete and Jonas express their anxieties in relation to the future. What is happening is

that a specific project, namely becoming a cooperative in order to participate in a network, is driving both bureaucratic transformation and the instigation of new rhythms of production. A plant for valorising PET plastic (water bottles) is about to start functioning in a space contiguous to ACAMPA. It will have machinery with the capacity to process more than 300 Kgs of plastic per hour, converting it into a flake that will have more value in the market. The network, which will be comprised of the 13 organisations of *catadores* that are part of *Eco-Cidadão*, will supply the factory with raw material. The network will require a cooperative as a central organisational component for the commercialisation of the benefited plastic. There needs to be at least one cooperative that concentrates on the revenue generation, accounting, and financial distribution activities of the operation, because associations are not structured to carry out these functions. ACAMPA will act as an umbrella organisation for the other associations to supply material for the plant and to commercialise its products.

In fact, the difference in working rhythms is not connected to the distinction between association and cooperative. It is merely a discursive device of organisational change, in preparation for the demands of the new project. Overall, associations and cooperatives function pretty much in the same way, notwithstanding the differences mentioned above. What follows explains how it came to be that most organisations of *catadores* in Brazil are created as associations.

Associations as Cooperatives in Disguise

For Sergio Faria, who was project manager of the Waste and Citizenship Institute during the first half of my fieldwork, the difference between cooperative and association lies in how associations can avoid the harms of an antiquated law that does not account for the needs of recycling cooperatives. The Institute has been, for many years, encouraging groups to constitute as associations, thus falling into the non-profit category. Rather

than having several cooperatives paying taxes, each with a book of receipts, a few associations may organize into a network with an umbrella cooperative. He explains:

“Today the tax load makes cooperatives of *catadores* unviable. The country’s law of cooperatives treats equally cooperatives of recyclers and crafts, cooperatives of taxi drivers or agribusiness.” [Faria, 2010]

This happens “because the law was made in 1971 when these kinds of popular cooperatives were not envisaged.” According to Sérgio, the problem is that the Brazilian legal system only distinguishes between first (state), second (private), and third (non-profit) sector organisations. Cooperatives of *catadores* should fall somewhere between the second and the third sector. It is true that their aim is to generate revenue for their members. But it is also true that the form of distribution for their revenue, as well as their power distribution, is completely different from those of a typical private company owned by a boss or by a collective of shareholders [Sérgio Faria, April 2010].

Organisations of *catadores* face several incongruences with an outdated legislative frame, which does not distinguish the particular principles, aims, and objectives of these popular cooperatives. What are the characteristics of this new reality that the law has yet to acknowledge?

“Solidary” Economy and Popular Cooperatives

Paul Singer (2007: 4) divides cooperatives into production cooperatives, commercialisation cooperatives, and consumer cooperatives. The groups of *catadores* investigated in this thesis are both production and commercialisation cooperatives. They typically provide workspace for two distinct types of workers: collectors and separators. The group of collectors is composed by *carrinheiros* (on pushcart), *carroceiros* (on horse cart), and kombi *catadores* (on vans). After collecting their materials, they bring them to

the association, sort them, and weigh the different products before handing them over to the collective containers to be bailed and commercialised. In this sense, they use the organisation as a commercialisation cooperative.

The group of separators, on the other hand, participate fully in the cooperative of production since they sort collectively what is donated to the whole group. Moreover, there are also the workers (usually one or two designated members) who operate the cooperative's bailers. They also participate fully in the production side of the cooperative and are paid by weight and value of the materials that they compact. Cooperatives also usually employ drivers and security guards. They are usually contracted workers, mostly, employees of contracted service providers, although they are often very closely involved in the routine dynamics of the groups. This is especially true of security guards, who spend long hours on the premises and end up helping with different tasks. As cooperatives participating in production and commercialisation, the groups studied here are best characterised by the term labour cooperatives; this highlights the fact that they are geared towards the emancipation and revaluation of labour in work relations, through the collective organisation and self-rule of workers under a solidary enterprise. The way these enterprises integrate into a wider economy organised under distinct principles raises a different set of challenges.

Popular Economy

As seen above in the discussions about the differences between cooperative and association, the expression 'popular cooperative' is used to distinguish the particularities of the organisations of *catadores* and to group them with other organisations with similar configurations. According to Coraggio the popular economy is part of what he calls the Labour economy – a form of organising work that is distinct, yet not isolated, from the

capital economy. The author describes the organisations of the popular economy as extensions of the household, taking:

“the form of associations, organised communities and various kinds of formal and informal networks that consolidate relations with their members well-being and reproduction in mind.” (Coraggio 2010: 123)

As a whole they comprise the popular economy, which is part of a “mixed economy under capitalist hegemony.” These organisations interact with state and private enterprises through the deployment of labour power. Furthermore:

“In a kind of reverse primitive accumulation (...) [popular cooperatives] may obtain resources from the capitalist economy not through economic exchange but through pressure, force and assertion of rights.” (ibid).

The coordinates of the theoretical map presented by Coraggio seem to locate with a high degree of precision the ethos and challenges of *catadores*' collective work in that:

- 1) many familial and local relationships are reconstructed in the cooperative/association;
- 2) cooperatives and associations of *catadores* are organised in order to elevate the return of labour against the unregulated profit of exploitative (formal and informal) capital; and
- 3) *catadores* interact with the mixed economy, using social and environmental values in order to claim resources, rights, and support.

These characteristics will become clearer through the presentation of the empirical material that follows. I will start by discussing the factors that favour the integration of *catadores* in associations or cooperatives.

Reasons for Cooperation

I have discussed how organisations of *catadores* respond to the bureaucratic distinctions that leave them without a suitable organisational form in which to fit their activity. They constitute, in theory, as popular cooperatives with economic aims, and, predominantly in practice, as associations using the solidary aims of their activity. What follows will seek to clarify why working with waste demands organisation at a relatively large scale in order to most effectively respond both to the needs of the people who perform this job and to the social and environmental challenges of the city.

Concentration and attraction of material streams

In the previous chapter I emphasized the ways in which *catadores* access recyclable materials by moving around the city and by establishing informal but consistent relationships with shopkeepers and private house dwellers. Through forms of “pressure and assertion of rights” (Corragio, 2010:123) as well as through movement in the political and juridical arenas in search for opportunities and entitlements, *catadores* organisations manage to attract donations of materials for collective work.

The main sources of material for the organisations of *catadores* were, at the time of fieldwork, schools, universities, post offices, and other federal institutions. Since 2006, a federal law determines that public organisms must give a correct destination to waste materials they produce. The law states that recyclable materials should be sorted and donated to organisations of *catadores* who, every six months, under the coordination of the Waste and Citizenship Forum, rotate amongst themselves the accessing of those materials. Furthermore, the Labour Attorney succeeded in applying the same principle to the State’s organisations and has been fighting in the courts of law to impose the same rule to the largest generators of recyclable waste amongst the private sector.

Many associations and cooperatives of *catadores* in Curitiba, and its metropolitan area, have also managed to establish their own partnerships with private companies to access the recyclables that they generate. For example, CoopZumbi, an association located in a large *favela* in the city of Colombo, which shares a fence with the golf course of a gated community, has a few very resourceful partnerships. Alphaville – the luxury estate - and the large retail chain Walmart, through their respective foundations, support Coopizumbi by providing their waste streams, which are generally rich in valuable recyclable materials. Finally, in Curitiba, part of the recyclables collected selectively by the municipality is directed to some associations of *catadores*. ACAMPA is one of them.

ACAMPA, at the heart of Curitiba's industrial district, receives its materials from different sources, mainly from local industries and from the municipal selective collection. It stands on one side of a long straight road, in between bus stops. As I walk from the bus stop towards the association's premises I see, on the opposite side of the road, an open field, about 100 meters wide, that separates the road from a parallel highway. As it would be expected from a large thoroughfare crossing an industrial district, all sorts of long lorries displaying a variety of brand names, slogans, and logos run through it. I pay particular attention to the ones that hold the slogan "SE-PA-RE" (SE-PAR-ATE...) with the subtitle "o lixo que não é lixo" (...the rubbish that isn't rubbish). Some of them are selective collection vehicles, one of which will end up unloading materials at the ACAMPA premises later in the day.

Gender divisions

ACAMPA's working space is a large building similar to many of the factory buildings that line up along the same road. Inside, nearly 35 members sort waste materials and learn how to work cooperatively. Most of the members (30) work only with 'donated' materials. They are called 'separadores' (separators).

The predominant numbers of separators has implications in the gender formation of the group. Most separators are women, whilst the president and administrative members are almost entirely elderly men. Some of them are former *carrinheiros* or people who worked

in deposits. The two permanent NGO support workers are young men. This shortage of women in the leadership of the association is far from typical among Curitiba's organisations of *catadores*; of the 12 organisations that compose the *Eco-Cidadão* project, seven are presided over by women. On the other hand, the overwhelming predominance of women as separators is a fact in all of the associations I visited; in most of them I did not see any men working in the collectives' separation areas. In ACAMPA, gender division is a particularly visible and talked about issue.

NGO technicians and *catadores* from other associations have commented on the fact that ACAMPA was prone to personal conflict. They attributed the fact to the high number of women who routinely work at the association. The fact that there were frequent periods of time without any material arriving at the premises did not help matters. On the other hand, the high number of women and the periods of idleness caused by lack of material with which to work had other effects. For example, the leisure space and the workspaces, as well as the toilets, were remarkably tidy.

At lunchtime, around twenty women gather in the rest area. Some smoke; others sweep the floor; others are already taking their packed lunches to be heated. Unlike what happened in other associations at the time, in ACAMPA there was no permission to cook inside the association. This restriction will soon become mandatory in all the associations of *Eco-Cidadão* due to environmental regulations. Not being able to cook in the association became a reason for discontent both from *catadores* who were used to doing it and from others who were in the process of forming associations (as in the association *Novo Horizonte*, presented at the end of this chapter). The issue seems to take the division between workspace and living space a step further, a separation that in this case may serve as deterrent for *catadores* to embrace cooperative work. Notwithstanding this problem, the lunch break gave me a chance to get to know some of the *catadoras*'

stories and understand the advantages of collective work. I will now present some examples.

The income Differential

Marisa has been in ACAMPA for 7 months. She had worked in recycling for all of her life. "But I was always other people's employee". Her last job was working for "a woman who bought waste from the municipality. The 'Lixo que não é Lixo' lorries brought the material and I worked in the deposit as a separator". In theory, it was similar to what happens in the association. In fact, it was much different, if for nothing else because here her salary is much higher. As she makes clear, "I used to get R\$500 (around £170) per month, here I can make up to 800 (around £270)... when there is enough material to work." [Marisa, 2010]

Not far from ACAMPA, on the other side of the Industrial District, Association *Novo Horizonte* was on its last stages of constitution³⁸. Dalva has been recently appointed vice-president of the group and has been relocated to a home next to the premises of the new association. Yet, because the association is not yet fully equipped, she still stores the material in her old house, in a *favela* by Rio Barigui, around which she collects the material.

In her old house, 7km away from the new association, Dalva shows me her piles of material, right next to the larger mountains of materials belonging to the middleman to whom she sells. Dalva speaks in a quiet tone, but without whispering: "For this material here [cardboard], he [she points to the middleman's house] pays 30 cents [per Kg]; there [through the association] it will be 45 cents. Sometimes I sell a ton at once here! You can see the loss I am making. Aluminium cans are worth R\$2 [per KG]. There it will be worth R\$2.5, or more." Dalva and her husband Marco show me around, passing by their animals and horse cart, opening the different bags. In another corner of the yard, a few more bags: "This here [plastics] I collect and sell here for 80c. The man there told me the other day that in the association it is going to be R\$1.5. What a difference, no? I am keeping as much as I can, but I have to sell most of this material here because I need to live. But it hurts. This middleman used to be conductor in the bus. He is been here for four years and already has five trucks, a

³⁸ We will look in more detail at this association in the last section of this chapter.

house in the country, a house at the beach, and I, working for 16 years, do not even have money to buy a bike!" [Dalva, November 2010]

So why do cooperatives pay more than individuals can earn from independent work?

Firstly, for sheer quantitative reasons. One of the ideal objectives of organisations of *catadores* is their capacity to store materials in order to wait for more favourable moments in the fluctuation of market prices. This aim is hardly ever achieved by independent workers, as independent *catadores* income needs and working/living spaces do not allow the buffer necessary to delay selling. However, the amount of material gathered by a collective of *catadores* does allow the association or cooperative to choose between offers, providing more bargaining power and eventually increased access to deposits of materials that are a step higher in the chain of commercialisation. The shared use of a lorry to transport materials increases the choice of buyers even more. In some cases the buyers will still be informal, but they will probably be larger capacity operators, thus able to pay a higher price for the materials. This will become clearer in the next chapter concerning markets.

Secondly, there is the possibility of aggregating more value to the materials by separating them more finely and by compacting them in bales. Here the use of tools, machines, storage facilities, transportation vehicles, and knowledge transfer essential for increasing value is made possible by the cooperative setting. In many organisations of the *Eco-Cidadão* project, a panel on the wall with samples of the different materials explains how to distinguish from the nearly 50 different materials produced by the average cooperative or association. Whereas it is impossible for individual *catadores* to have even enough material to produce that many different lots, the cooperation with other *catadores* allows an important increase in income generated by the fulfilment of buyers' orders for finer classification. On the other hand the cooperative setting allows the kind of human

discretion and skill necessary to distinguish the different materials in ways that the large semi-automated recycling facilities (of London for example) can never achieve³⁹.

Finally there is a further area of possibilities opened by cooperative work, which is still to be explored by Curitiba's organisations. Firstly, there is the aforementioned possibility of material storage, which is already used for materials that have no value whatsoever but may at some point find a buyer. The surplus materials can be better used if *catadores* achieve a degree of income that may enable them to counter-speculate against market fluctuations. Secondly, there are the nearly completed networks between organisations, which promise to open up more profitable markets. These may include the tantalising aim that feeds the imagination of most 'organised *catadores*': the possibility of selling directly to the industries that manufacture the final consumer goods.

It is clear that the increase in income is one of the most important improvements offered to *catadores* by cooperative work. The other one is security, presented in the following section.

Security

Despite gender predominance in specific functions composing the profession of *catador*, Marta and Rosineide's story defies most conventions. They used to work together with a pushcart. They used to have a common routine amongst *carrinheiros*. They would collect from six o'clock in the afternoon until midnight. Then they would bring the material to their house and sleep until the early hours of the morning when they would wake up to unload and sort. Finally they would take the separated material to the middleman. Their move to the association was less motivated by monetary gains than by the possibility of avoiding the risks of working on the streets at night, and the problems of processing

³⁹ The state of the art Material Recycling Facility of Greenwich SE London, produces 7 types of material.

waste at home, as well as the dangers and uncertainty of income inherent to their previous activity. Marta and Rosineide function as a family unit composed of two women. Despite their obvious streetwise ways, they used to be subjected to the enhanced hardships faced by women who work on the streets without protection. In ACAMPA they work as separators, sorting the materials donated to the collective. If they continued collecting on the streets and started bringing their materials to the association they would probably get more pay than they had previously received. Working “in the collective”, however, they achieved what they lacked before: more stability and security.

Skills and Organisation

In ACAMPA, after a long lunch break, everyone slowly returns to the workspace. The voice on a small radio reaches every corner of the large open space. Next to the working tables, there are two boards where small plastic bags hang, displaying samples of the materials sorted by the association. The number of different materials extracted here amounts to more than 50. The number of saleable materials depends on the demands of the buyers, and the finer the separation the higher the value. At the moment there is not much material to work with, so the atmosphere is quiet. Then, suddenly, a lorry reverses into the entrance of the premises and everything changes. The workers queue behind the lorry, each pair holding a large bag. Their voices multiply, overlap and increase in volume. Giggles frequently permeate the soundscape. Someone jumps on to the lorry and starts dropping plastic bags full of materials down to their colleagues. The unloading and the operation appear well-articulated.

One of the two technicians from Eco-Cidadão stands on the side holding a clipboard, scribbling numbers on a spread sheet. He tells me that the vehicle is from the selective collection of the municipality of São José dos Pinhais. He praises the organisation of the group:

“What you see here is not common in other associations. We have achieved a degree of coordination that results from a long process of work between the technicians and the catadores”

I ask him whether he thinks that the group will be ready to work autonomously once the project withdraws.

“To be honest with you, I don’t see that transition happening any time soon. They are dependent financially but also in terms of organisation; I don’t see the administrative skills in place for a smooth transition.”



Figure 19 On the wall of ACAMPA, bags with samples of materials for *catadores*' reference.

Cooperative work brings many advantages to *catadores*. I have mentioned the issues of income, security, and health. They also converge with political and social objectives. Cooperative work is more efficient in sorting more quantities and types of materials, whilst additionally fostering the integration of informal workers into groups of peers, and establishing institutional relations with the State and urban economy. The municipal project *Eco-Cidadão* configures a meeting point between the needs of *catadores* and local political agendas.

Notwithstanding, cooperative work represents a substantial, and, in many ways difficult, leap in relation to the *catadores*' previous lives/working situation. This is why in many cases, despite the advantages of being in a cooperative setting, *catadores* prefer or cannot stop being un-organised.

Obstacles to Cooperation

For all the advantages of being part of a labour cooperative, which have partly been presented, most *catadores* in Curitiba are still “non-organised”⁴⁰. So far in this chapter, I have discussed some factors that attract members to labour cooperatives of *catadores*. In this section – the chapter’s penultimate – I outline some of the issues that drive *catadores* away from collective work.

Quantitative Limitation

Security, hygiene, and social integration are the main objectives of the municipal project *Eco-Cidadão*. They support the aim of transferring as many *catadores* as possible from the streets into controlled cooperative settings. The project’s coordinator, Ana Flávia, showed me the municipal figures regarding achievements and objectives when I interviewed her at the Municipal Environment Secretariat:

“The municipality works with a total number of 3 600 *catadores* in Curitiba. The project aims at the creation of 25 recycling parks involving 3000 *catadores*.”

[Flavia]

Thus allegedly aiming to include nearly all the *catadores* operating informally in Curitiba.

The quantitative ambition of the project is, however, very far from its achievements.

First of all, I recall that estimates about the total number of waste-pickers in the city range from 10 000 up to 20 000. Notwithstanding the fact that the methodologies that generate both extremes are hardly defensible, except by the imperative to produce some number with which to work, much evidence points to a number far from the lower extreme. The municipal figures are based solely on registrations taken by the municipal social services, whereas the ones presented by other organisations, such as the waste and

⁴⁰ Expression used by people involved in the cooperative movement of *catadores*.

citizenship institute, factor in the predominant disconnection between *catadores* and state bureaucracy.

Secondly, many members of the associations created by *Eco-Cidadão* were not previously *carrinheiros*. Unlike Marta and Rosineide in ACAMPA, or Lia at CATAMARE, many *catadores* in the different associations and cooperatives would not have been counted within any estimate on the number of *carrinheiros* previously operating in the city, as they were working in other trades. Furthermore, unlike Marisa, who previously worked as a separator in an informal deposit, many members of associations and cooperatives would have never even worked in the recycling circuit. The president of ACAMPA was a stonemason; Jonas, a former mechanic; Ivonete came from a crockery factory; and Francisco was previously a drugs rehab therapist, and they are only examples taken from the *catadores* that I have already introduced in these two chapters. A good portion of the participants in *Eco-Cidadão* became *catadores* only because the project offered them an attractive job prospect in a convenient location. Therefore, the present number of 350 *catadores* in 13 organisations across Curitiba cannot, under any estimate, count as attending a significant proportion of collectors working between the city's streets, their homes, and the middlemen deposits. Nor even can the unrealistically far aim of achieving 3 600 members of associations by the end of the project.

The quantitative limitations to the project do not contradict the potential qualitative change opened up by the experiences of *catadores'* organised labour. At this level too, there are important obstacles to *catadores'* engagement with collective work. I present some of them in the following pages.

Friction

My first example of how friction drives *catadores* away from cooperative settings comes from a man I interviewed in the street of Curitiba, who had previously been in a cooperative. One day I was filming and interviewing in Curitiba's centre in the afternoon rush hour of six o'clock. As it is common in April, the city was chilly and drizzly. It was dark already.

At this time the centre is particularly agitated. The buzz is caused by many people, who have finished work, walking either to the many central commuter bus stops or to the pedestrian streets and other parts of the city's commercial centre. Another source of agitation is money collection. At this time of day many fortified vans snail through the pedestrian zones and stop at the many banks and cash points to collect and replace money vaults under war-like security measures - at least two armed security guards oversee each operation, eyes surveying the proximities, fingers on the triggers. This is also the time when hundreds of carrinheiros concentrate in the central streets of Curitiba waiting for a shop to close and expel the recyclable remains of the day, or are already finishing up hours of collection loads.

Zebra-crossing the traffic, in between two stretches of the main pedestrian shopping street of Curitiba, right before one of the money-collection vans, I see a particularly high-rise pushcart manipulated with remarkable dexterity by a very thin tall man. He must be at least 1.85 m; his pushcart's load reaches double his height. He is wearing a baseball hat with the logo of Eco-Cidadão. His name is Evaldo, and he has been piling up his load since one o'clock in the afternoon. He now has more than 400kgs, according to his estimate. He lives in Vila Capanema, very close to Curitiba's largest cooperative – CATAMARE - with his wife and two children. He separates at home. He used to work in CATAMARE but now he is back on his own. "I didn't get on with a guy who was working there. We had some disagreements and so I decided to leave". As I insisted on asking what were the reasons for his departure, he just kept saying, "I did not get on with him." But was it another catador, I ask. Evaldo clarifies: "No, the guy who works there - the guy from the municipality". He admits that he gets much less money for his materials than what he used to get through CATAMARE but "even so I prefer to be on my own. They have been asking me to come back but I prefer not to."

Later I talked to the president of CATAMARE, Waldomiro Ferreira about this case. He remembered the man and confirmed the story. Evaldo had fallen out with the technician from *Aliança Empreendedora* who was working there at the time. He was not the technician who is working there now but the incident was sufficient to deter Evaldo from trying again.

Apart from personal disagreement, another problem that keeps many *catadores* away from cooperative work is drugs. The president of CATAMARE, who has been sober for more than ten years, speaks openly and extensively about his own addiction to alcohol and about the issue in general. As he explains, “we cannot allow drugs in the cooperative. Many *catadores* are addicted to alcohol or crack or both.” On the one hand, it is the cooperative’s rules that repel drug users, but on the other hand it is the *catadores* themselves who more easily fall prey to unscrupulous waste traders who sometimes pay their wages directly in crack cocaine and/or *cachaça* (Brazil’s national drink – a strong sugar cane liquor). Drug abuse is particularly prevalent within the population of the urban poor, including *catadores*. It is often deemed responsible for the dramatically steep rise in Curitiba’s crime statistics. The aims of the present project, and the obvious difficulties in researching criminalised behaviours, excluded the topic of drugs from closer empirical examination. Yet it became apparent from many second-hand and life history accounts that it is a significant source of friction and an important obstacle to breaking the vicious cycle of exploitation in which many *catadores* are entangled.

Information and Location

Tiago, who we met in the opening story of the previous chapter gathering cardboard boxes and aluminium cans at Curitiba’s central square, thinks that “the cooperative is not profitable” for him. Cooperative work, as he sees it, is not compatible with his plans to expand his individual business, to have people working for him, and to collect with

several pushcarts. “Because what happens in the cooperative is that I bring my pushcart and then they unload it and weight it and take 30% off for them”, he elaborates. “And what is more, to be part of a cooperative we need to have a registered address in the proximity of the co-op, which I do not have.” He told me he had contact with a cooperative in the borough of Capanema, which I could not trace. It could be CATAMARE, which is fairly close, but his description of the work process does not match the work in a normal cooperative. Thus this looks like a case of misinformation about what a cooperative is, just like in the following example.

At a different part of town – Cabral - I meet Juliano and his pregnant wife Simone, with their two-year-old daughter, collecting material at a building site to load up their horse cart. They have been catadores for 8 years. When I ask them to whom they sell, Juliano hesitantly replies, “to a cooperative down where I live”. I get excited with my luck – after many street interviews I had never managed to randomly find a cooperative member. What is the name of the cooperative? “I don’t remember what it is called there, I don’t stop there for long – I just unload sell and go” By then I begin to suspect that Juliano is calling a common middle men’s deposit a cooperative . It is not clear whether he is saying it because he perceives that this answer is of a higher value to me, or because he commonly refers to that middleman as cooperative. Other informants’ statements and literature on cooperatives in Brazil suggest that many owners of informal businesses abuse the denomination cooperative. In any case, it is in this context that Juliano mentions the word cooperative for the first time in our interview. When, a few minutes later I ask him if he is familiar with cooperative work in which catadores share tools, workspace, and the sale of materials, he immediately acknowledges the difference. “I know them, but there is not one where I live. I pass by one every day in a different borough but I do not know if I can join, can I?”, he asks me. I reply that I do not know, that he has to ask there himself. He smiles and looks at his wife. “Yes, we have to ask one day. I know there is one in Boqueirão because I always see lots of people getting in and out of this place, but I never asked.”

As I asked *catadores* on the streets about their views on cooperatives, I became aware that the word is often misused and that the information about what cooperative work entails is not sufficiently disseminated. As Magera (2003) discovered in his investigation of the waste trade in metropolitan São Paulo, many registered cooperatives of *catadores* are in

fact small individual enterprises that use the cooperative status to gain financial advantages and social recognition. These fake cooperatives are known as ‘*coopergatos*’ (“cat co-ops”) (ibid) and reflect a phenomenon that is prevalent in other trades.

It became apparent during my fieldwork, both by hearsay and by declarations of *catadores*, that the phenomenon of fake cooperatives exists at least at a nominal level, and that it is probably responsible for much misinformation about what a cooperative is and what it is not. This misinformation is responsible for the difficulties in getting *catadores* to join cooperative work.

The issue of misinformation is a manifestation of the wide gap that I encountered between the participants with whom I engaged on the streets and the ones who I encountered in associations. My own difficulty in “reaching” these two “sites” of research together, however physically close they might be in the city, is a manifestation of the obstacles between working within or outside an associative setting. From an institutional perspective, several reasons for those obstacles are advanced, as the next perspective shows.

Individualism and Control over Means of Production

Working for NGO Enterpreneurial Alliance, Rafael Cardeal is used to projects of organised labour for groups of different kinds of small informal entrepreneurs. The models that the NGO has set in place in order to train and prepare those groups for autonomous production do not apply to the project design of *Eco-Cidadão*. Apart from other differences, such as necessary equipment and infrastructure to start a recycling association in comparison with, say, a small sawing cooperative, there are other characteristics particular to the profession that make it more difficult for the group

dynamics and autonomy to be established. As Rafael Cardeal, the coordinator of the project *Eco-Cidadão* in *Aliança Empreendedora*, explains:

“The *catador* is used to his collection routines and to dealing with the middlemen, many times to being cheated by the middlemen’s scale, and he is used to dealing with all of this on his own” [Cardeal 2010].

This individual relationship with their work is also separated from the instruments that valorise the material, such as balers, means of transportation, and storing facilities. Furthermore, it is detached from any work of bureaucratic administration or management calculation. The consequence is that it is very difficult to instigate care for equipment and collective production processes as well as administrative proficiency conducive to autonomy. Therefore, says Cardeal, “whereas other groups have plans of visits from our support workers that vary in periodicity from weekly to monthly, in associations and cooperatives of *catadores* we have two full time technical support workers inside the work space.” Furthermore, whilst with other groups there are stages of entrepreneurial escalation and when the group is constituted there is only intermittent technical support, the reality of *catadores* is much different. *Catadores*’ financial situation, generally on the verge of survival uncertainty, imply that the workspace must be functioning before the training is finished. So *Aliança Empreendedora* has developed a single flexible support program of 16 modules that extends for the two and a half years that the support project is meant to take place.

Therefore, the objective advantages of cooperative work are in many ways countered by the subjective individual forms of engagement of *catadores* with their lives and routines. As seen above, situations of personal friction, isolation, and perceived incompatibility between ambition and cooperation are centrifugal forces that contribute to the isolation of *catadores*.

Resources

From an institutional perspective, the level of resources necessary to form a recycling association is another main obstacle for the association between *catadores*. According to Rafael Cardeal, the resources necessary to create a group of *catadores* are larger than those necessary to create other projects of collective work with informal workers. *Catadores* need a space of 600-900 square meters, which usually has to be rented. For equipment, a recyclers' association demands up to R\$20 000⁴¹ for a baler and R\$8 000 for a scale, plus expensive separation containers. Thus the minimum investment to set up a labour cooperative of *catadores* rises to 60 to 80 thousand *reais*⁴², whereas a group of bakers, to cite one of the types of groups that demand larger investment, needs a maximum of 20 thousand *reais*.

Because these resources originate in the municipal treasury, they are subject to fluctuations depending on political cycles. Several support technicians whom I interviewed mentioned that the discrepancies between the promises of politicians and the resources made available to deliver those promises in a consistent and sustained way make life very difficult for the frontline workers responsible for dealing with *catadores* on a daily basis. Therefore, the fluctuations in the offers for spaces and resources cause *catadores*, in many cases, to leave the association or to resist joining one, and they instead prefer the autonomy of independent work. Paradoxically, the precariousness of individual work can appear more stable than the uncertain protection of cooperative engagement. Furthermore, the bureaucratic and economic hurdles to the creation of a recycling cooperative make it very difficult for genuine grassroots projects to emerge.

41 Nearly E7000 as of 2012

42 E25 000

Thus, most new associations in Curitiba have been formed as part of the *Eco-cidadão* project. In the last section of this chapter I will briefly describe one day in the formation of one of the latest of those associations.

The Formation of an Association of Recyclers in Curitiba.

In the opening pages of this chapter, Nair Santos, the president of *Amigos da Natureza*, summarized the constitutional history of the association. Along with Juarez Sandeski, from the project *Eco-Cidadão*, she explained how her house was the first centre for the constitution of the group, even before the existence of a workspace. The process took at least two years before the association could start working.

Despite the difficulties outlined above, and the fact that few people believe that the *Eco-Cidadão* project will manage to deliver autonomy to the new associations of *catadores* during their third year, specific cases seem to indicate that the process of the formation of associations has gone through an encouraging evolution. The newly formed group substantiating the association *Novo Horizonte* is an example of that change. In contrast with the two examples before, less than a year after its first meetings, there is a board of directors and a space ready for the group to start working. What is more, the group seems to contain the seeds for a rapid process of autonomy. This occurred because its members have some critical abilities, such as familiarity with computers, experience in courses on cooperativism, good levels of general literacy, and high awareness of the work processes in the other groups across the city. This swift formation also happened because its members were recently relocated to an attractive estate built by COHAB⁴³ – the municipal company responsible for popular housing – located 2Km away from the association.

The motivation and capacity to learn quickly was evident in the development of the content of the meetings and especially in the dynamics shown during the group activities, which displayed a high degree of cohesion and self-organisation. The two technicians, who previously oversaw the formation of nine associations (just to mention

⁴³ *Companhia de Habitação Popular de Curitiba*, Society of mixed capitals, whose major shareholder is the municipality of Curitiba, providing social housing.

the ones in context to this project), believe that this could be the association that will have the shortest start-up time and need the fewest permanent support staff.

Meeting: themes and history

In a medium size empty warehouse, a recently constituted group of nearly 20 people is collectively imagining and setting out how they will work together. On the first floor, where a window overlooks the open floor plant downstairs, the members of the association sit in a circle, their chairs being the only furniture in the whole building. They gather around Filipe and Juarez who are leading the meeting.

Filipe is a social worker who, in his interaction with catadores, shows influences from the world-famous Brazilian school of applied drama called “the theatre of the oppressed” (Boal, 1974). He has been working with catadores and in partnership with Juarez for more than ten years. After inviting the catadores to move closer to the wall where they stand, in front of written flipchart paper taped to the wall, Filipe and Juarez rearrange the group. The members of the board of directors sit on one side; the other associate members complete the semi-circle. They occupy about a quarter of the room.

At the other end of the otherwise empty space there are two bathrooms still without doors. Filipe kicks off the meeting:

“Good morning... we invited you to come closer because we now want to start interacting more, working together more, closer to each other... Now, from the moment that we started meeting here, we started discussing a new way of working, that is, getting out of individualism, getting out of anonymity in order to depart to collective work, to organised work through an association. When did we start this?... less than two months? And what day is it today?... Today, the 5th of November 2010, we have a name for the association and we have a president, vice-president, treasurer, secretary, etc... So now each of you will say their name and who is what in this association...”



Figure 20 Filipe addresses the founding group of Novo Horizonte.

The agenda for the day included different subjects: the remits of the different functions, the organisation of work, the timetable for visits to other associations, next stages, reflections on the principles of the association, basic notions about the sources and value of materials, and the stages of the productive process. Filipe and Juarez both particularly stressed the importance of recording the work and deliberations of the association, highlighting the fundamental role of the secretaries on the board of directors. As Filipe put it:

“You are also writing the history of the association, making sure that you are not forgotten. In a few months or years, someone will ask: ‘so what happened in the 5th of November?’ You will then be able to go back to your records and say exactly what was said and decided today. Similarly to Francisco [he points at me], who came from so far away to write a story of his perception about the work of the *catador*, we can also write this story collectively.”

At least one *catador* kept jotting down notes on a clipboard throughout the meeting. I was filming most of the time.

Approximately two hours into the meeting directed by Filipe, with the assistance of Juarez, in which there was wide participation of the group, the technicians propose a dynamic activity. Filipe challenged the group to gather on its own, to discuss a topic of their choice from a few very broad options:

“the challenge here is that you start walking with your own feet. So the secretaries can take pens and sheets of paper and we will be back in five minutes. Tell me if you need more”.

The group immediately reconvened in another part of the room and, after about ten minutes, when we returned to our seats, the discussion was still lively. There were several topics written on the wall and Filipe decided to wait for another ten minutes.

As I turn to the group to film from a distance Filipe comes next to me and confides: “This is the best group we ever had. I reckon they will start working with one permanent support worker only. They have seen other associations, they are very smart”. I ask him if is not also due to his and Juarez’ accumulated experience. He replies, “Funny you say that because someone asked me the other day if I had realised the importance of our role in the project. And you know that until then I hadn’t?” He then starts to open a roll of paper and tells me: “And this is the material we have to work with— paper, tape, and marker pens”. He says it with a sense of pride for the contrast between resources and achievements. He and Juarez have helped constitute 10 associations for the project. Filipe starts writing on the paper what seems like lyrics of a song. When he finishes, he takes the sheet with him and approaches the group. He slowly interrupts the discussions and asks them to report back.

They have gone through several topics and seemed to have made interesting progress.

The list, written on the paper on the wall, included: distribution of cleaning tasks; division of labour on the tables, on the baler, etc.; how to finance common purchases like coffee, sugar, and food; how to organise the process of loading and unloading material. As they presented the results of the activity, a lively discussion emerged,

revealing a sense of purpose and evidence of exhaustive research on the processes of other associations.

But more than knowledge of what expectations *catadores* will have in the new setting, what the group needs is embodied dispositions, a new working habitus. Thus the possibility of sustaining the association depends on the group's capacity to resolve conflicts and organise work processes as well as establish positive group dynamics. The exercises devised for this period are meant to develop those traits.

Final song

At one point Filipe picks up a pile of bubble wrap and throws it in the middle of the circle. He starts acting, playing a separator who looks at a pile of material, pulling it from different sides, very slowly, detached. He announces he will take a break for coffee. "How long? Ten minutes... maybe twenty with a chat. Then a cigarette. How long? Another ten." Then he walks back to the pile and very slowly pulls another piece of bubble wrap. He scratches his head, exaggerating the gestures. Then he explains.

"And this is one of the things you were discussing here, wasn't it? The workflow. We do not want you to become robots; that is not the idea of the project. But it is important that you as a group create a perception of how you will work and how you can produce more using everyone's different skills."

Juarez steps in to add:

"Different people have different skills, some are better at separating screws from plastics or wood and disentangling materials in this way. Others are better at sorting plastics, or different types of paper. I visit plants every day, but I couldn't do it. That is why I do a different job. Each person must have a role according to their abilities. Some people are better at cleaning the toilets, others prefer or are better at sweeping the front yard. Some people work very quickly on the table, others will be very slow and maybe they will have to do something else to make it up for the group. In the association you will have to find ways of using people's skills and abilities in the best possible way, because the association is a unity that will work respecting difference." [Juarez Sandeski, November 2010]

Several members of the group echo this idea, demonstrating agreement. At the end of the meeting, Filipe pulls the pile of bubble wrap aside and joins hands with everyone in a circle. He leads an

exercise of cohesion explaining that sometimes the group will have to close down against adversity from the outside –moving everyone to the centre -, others they will have to open up and welcome new members and new ideas. They end up with a song whose lyrics Filipe had written in a piece of paper that is now on the wall. Everybody sings. And the morning draws to an end. Association New Horizon is getting ready to start.

Outflow

Later, at the end of the afternoon during a meeting at another association (*Amigos da Natureza*) Filipe tried again to get all members to join their hands for a final song. The Association had been working for nearly a year and the meeting revealed several tensions. As *catadores* and technicians started joining hands, a lorry got in through the gate and reversed into the workspace entrance. It was the rubbish collection. The circle was never formed.

As I mentioned in the opening of this chapter, the refuse bags had been piling up in the association's workspace for more than a week and the group is 'itching' to get rid of them. The unusual delay is not clearly explained but it seems to be related to the fact that the municipal landfill of Cachimba has finally closed, which has reshuffled the disposal routes in the city. The association produces 1.5 tons of waste per month, so a week's worth of rubbish bags occupy a lot of space. So the arrival of the collection truck provoked an enthusiastic reaction. All hands separate before the circle was formed and the song is interrupted before it even started. Everyone rushes to the plant to pick up the bags. Like everywhere else in the social world, the creation of value depends on the capacity to dispose of waste.

The materials for sale form the most valuable portion of the recycling cooperatives' flows, which we will follow in the next chapter. Yet, an important part of what is generated in associations and cooperatives of Curitiba is rubbish. This stream results from insufficient separation at the source (by residents, collectors, and donors), punctual

carelessness or misunderstandings by *catadores*, and fluctuations in the market demands.

As we saw in many different occasions above, the value of what is created in an association does not always correspond to what is valued in its formal aims. It is clear that labour cooperatives of *catadores* represent substantial improvements to the working and living conditions of their members.

Conclusion: the Socialisation of Labour and Materials

An association of *catadores* can be seen, as Tim Ingold would suggest (see chapter one), as a tangle of lines crossed by materials and people. The ways in which these circulations are made to produce different values for *catadores* and for the city is much more than a simple measurement of the efficiency of flows. This chapter focused on the labour cooperatives of *catadores*' and their capacity to realise more value(s) from the urban waste that runs through their group's work, and to distribute the earnings more fairly amongst those with less chance to operate in other productive sectors of the city's economy.

Catadores do this by reclaiming waste and working on it as a commonly owned resource. Thus they start by proposing an alternative to: on the one hand, the straight temporary appropriation of discarded materials carried out by individual 'scavengers' and, on the other hand, the private accumulation performed by large waste management companies and waste traders.

Cooperative work on recycling in Curitiba is at the moment dominated by a municipal project called *Eco-Cidadão*. The political consequences of this direction, as well as the conflicting views it generates within other players in the city, will be the focus of Chapter seven. There I will discuss in more detail the future perspectives of these organisations. By now it should be clear that there are many and difficult obstacles to the realisation of the affirmation of *catadores* in the urban economy through cooperative work.

Yet, many goals have been achieved and the construction of a capital of experience and potential is very clearly discernible. Through these forms of organised work *catadores* put a foot in the door that continuously threatens to close on their possibilities to claim a share of the value that they help to generate from urban waste. Recyclers' cooperatives can also be seen as models for a global rethinking of the organisation of recycling that manages to include more beneficiaries, with a view to building systems that not only

distribute opportunities through more sectors of the city, but also are more efficient and adaptable than large-scale semi-automated operations at the municipal level.

But more crucially, the dynamics generated by cooperative work, simply by the fact that they breaking *catadores* isolation cycles and putting them in contact with each other and other structures of support, opens a space for dynamic changes in the social configuration of urban markets and political structures. But before getting to those political possibilities, let us keep following the streams of materials so as to understand better what is it is that may be changed.

The challenges faced by urban ‘scavengers’ in Curitiba not only originate in their own organisational difficulties, but also in their integration into the wider cycles of waste reclamation that they initiate. How cooperatives plug into those market networks is what next chapter will try to unveil. In chapter three, I focused on the ways in which *catadores* circulate through the city to collect materials. The present chapter discussed the ways in which *catadores* organise to collectively process materials. In the next chapter I will follow the materials once they leave the cooperatives, with the aim to depict the human connections and disconnections that this circulation generates.

Chapter Five. Markets of Materials: Exchanges by and beyond Catadores



Figure 21 The municipal rubbish truck with the new municipal recycling campaign "SEP-A-RATE: the rubbish that isn't rubbish"

The ‘road-port’: Crossroads, Flyovers and Intersections

I’m sitting in the right hand side of the truck’s cab, with my elbow leaning off the window. We are heading to Dambrosi – a large trader in Curitiba’s industrial district that resells all sorts of paper, tetrapack⁴⁴, and some pre-consumer plastics to reprocessing industries. Through the mirror, I can see one corner of the load we carry: two neat piles of cardboard at the front; behind it, coloured bits of different sorts of paper flapping in the wind along with loose ends of plastic straps. In front of me there is a spread sheet in a transparent sleeve. I read it. It lists the load we carry.

Cardboard: 6 bales of between 200 and 220 Kg;

White paper: 3 bales;

3rd Class Paper: 3 bales of different weights;

Newspaper: one bale of 216 kg;

Coloured paper: 5 bales of 260-280 kgs;

Tetrapack: one bale of 208 kgs.

The total weight is 4.35 tons. It should pay 1,490 R\$⁴⁵. I put the spread sheet back on the glove shelf. We have entered a bumpy road.

The driver, who works for a private company, does regular freight jobs for this and other cooperatives of catadores. Two members of Association Vida Nova (“New Life”) sit in the middle of the truck. Like most of its other members, they live in the favela that hides behind the association’s workspace. Opposite, on the other side of the small street, there is an informal buyer of waste materials, with whom the association does no business.

As we drove out of this quiet street, straight onto a large modern tar road, the two catadores recognised a man standing by a flashy sports car, apparently waiting. Who was that? “That was X – the main drug dealer in the Vila”, they informed the driver and me. Despite the small size of their settlement, they spoke of connections between the local dealers and a notorious armed organisation run by prisoners in São Paulo. The conversation revealed part of the tense peace between the catadores in the association and the drug traffickers who live in the favela. Most of its inhabitants live off of the waste trade, thus confirming the favela’s nickname – Vila Papelão (Village Cardboard). The drug trade is seemingly the other main source of income reaching the settlement.

⁴⁴ the composite material of which are made juice cartons, for example

⁴⁵ about £490 in 2013

As the association, the favela, and the drug dealer are left behind; we cover our first kilometres on the Green Line, a highlight of the recent government of Curitiba. Its wide and straight lanes connect the city to the southern periphery, leading to the main airport and to South Paraná. A double bus lane runs in the middle of the highway. Its bus stops resemble train stations. By the way their names are displayed in large letters, the stops also signpost the drivers' journey.



Figure 22 The truck with Vida Nova's load on its way to Dambrosi, passing by the depot of containers

At one point in the 14-Km trip, amongst many industrial sites, we pass by a particularly large agglomeration of cargo containers. The area resembles a seaport, more than 100Km away from the sea. Responding to my curiosity, one of the catadores tells me that the site is a customs depot, where containers that come into Paranaguá port, and into and through Curitiba, come to be inspected. If that is true, here's graphic proof that we are crossing a crucial node in commercial and industrial routes.

Several large roundabouts and one flyover cause us to intersect with this crucial transport route with our load of waste materials destined to be reprocessed and reconverted into new products. Most of our load is composed of objects previously used to wrap, contain, and transport consumer goods. Some of these materials will possibly end up in containers travelling by ship or big lorries. Our truck looks much smaller when imagined as a point passing through these crossroads. Yet it also becomes part of something bigger. It is upon many of these small trucks that the industrial production relies. Recycling routes physically interweave circuits of transportation that feed capitalist production, mimicking them, reproducing them, feeding back on them, and becoming part of them. Material for recycling is transported through the same roads as the raw materials that they replace and complement, the same routes as the objects from which they were extracted and the ones that they will constitute. These are possibly also the very same routes that carry

substances, such as drugs and food, which run through the residents' bodies. Although some circuits are formally represented in the city's discourses and others are informal and made invisible, they end up having to share routes and bodies.

At the end of the road, I realise the importance of seeing the Association and the favela as intrinsic parts of the flow of materials and substances transported by and through bodies and objects, making the urban economies throb.

Introduction

Post-consumer recyclable waste follows routes that are invisible to most of us. The initial steps of those routes were shown in the earlier two chapters. In the first stage, *catadores* gather materials from doorstep bins and from donations. Subsequently, they shift those materials to their own houses and neighbourhoods, and to informal deposits. If they are organised in labour cooperatives they transport the product of their gleanings to collective spaces where the different materials are sorted, classified, and compacted. Then they sell them. Henceforth materials will travel through different circuits along which they are transformed into industrial resources. Participants often refer to those routes as “*circuitos de logística reversa*” (“circuits of reverse logistics”).

A large part of the initial stages of this transformation involves sorting, classifying, and containing different materials according to the demands of buyers, avoiding contamination between materials and by organic matter. Containment and the danger of contamination evoke Mary Douglas’ definition of dirt. “Dirt is matter out of place”, she famously wrote, quoting Lord Chesterfield (Douglas, 1966). Matter that is in its right place ceases to be dirt or to present a threat. What I am proposing in this chapter is to look at the construction of recycling circuits through market exchanges, as a process of ordering flows and people. This process contains different players with distinct functions, separate from each other and from the full knowledge of the relations of production that those circuits entail. By acknowledging those elements of containment and concealment, I am seeking to look at what is in fact a messy infrastructure of exchanges supported by different systems of value. Understanding the representation of recycling as a simple uni-linear cycle, based in a univocal system of value (Graeber 2001, see chapter one) is a step towards being able to look through it. The distinction between

meshwork and network as presented by Tim Ingold may help in understanding what is at stake here.

On the one hand, we have the dominant recycling model. The model is conceived as a network. As Ingold explains, the notion of network is associated with discrete objects being transported through linking lines between contained nodes. This model, Tim Ingold would say, following Deleuze, contradicts life, which happens along, and in, the intersection of lines. Life forms a meshwork in which lines intersect in particular organisms, rather than moving across lines in between discrete nodes (Ingold 2011: 83). Furthermore, says Ingold (ibid: 27), what travels through these lines are not discrete objects, but substances, which assemble and disassemble in and from confluences of lines. Even though it is not directly referred to by Ingold, I cannot think of a better illustration of this idea than the recycling markets with which this chapter is concerned.

On the other hand, there are the real recycling circuits traced by materials and people. Materials are disentangled from objects and transported through circuits that lead them to be reassembled again in other objects, to start the process all over again. If one focuses on one single line - one material, one route – then we may be able to form a cycle akin to the iconic recycling symbol. If one endeavours to look beyond it to the meshwork formed by the traces of the real routes of substances that circulate through the recycling circuits, the picture will then be much richer. This is my aim here.

As we saw in chapter one, most of the research on waste looks at discrete objects transported between stages of value, rather than materials that flow into, through, and beyond objects and people. Classic works such as *The Social Life of Things* (Appadurai 1997), *Rubbish Theory* (Thompson 1979) and *Archaeology of Rubbish* (Rathje and Murphy 2001) have been the biggest influences on this inclination to see recycling markets as networks of objects circulating through stages of value. The challenge is thus to look

beyond the official schematic models in order to make intelligible the traces of materials and people in their conjoined efforts to realise values through labour, travelling, and exchanges.

The methodology I am deploying for this endeavour is threefold. Firstly, I am looking at market relations through the classical notion of embedment. According to founding texts of economic sociology, there is no such thing as a pure market relation between rational self-maximizing agents determined solely by price calculations (e.g. Polanyi 1944; Granovetter 1985). Instead, all exchanges are social relations embedded in cultures. Particularly in informal markets of recyclable waste, the cultural dimensions are, if anything, more prominent. If for nothing else, this is due to the lack of bureaucratic regulation that imposes the ascetic appearance of formal markets, and due to the use of ecologic values in its construction.

The second methodological move relates to the core argument of this thesis. I contrast those market relations with the initial exchange of the recycling chain, which does not include market value considerations at all. That is, when *catadores* sell materials they establish exchanges that involve price mechanisms and some degree of specific economic rationality. Despite being embedded in social and moral values, market exchanges are certainly very different from the ones that *catadores* carry out when sourcing materials. When they collect, receive, negotiate, and sort materials collectively there is no money involved, it is not price that determines the value of what is exchanged - as we have seen in the two previous chapters.

Finally, we will pay attention to the construction of alternative circuits of value, which secure more market value or other values to *catadores*, either by breaking cycles of economic exploitation or by doing away with market value altogether. Thus, “lines of flight” are created, along which both emancipation and social change may be envisaged.

Whilst the latest point will be further developed in the next chapter, the present one focuses on the recycling market in its double face. On the one side, the chapter follows the circuits that conform to the coherent protocols of the official cities. On the other, it shows the self-regulated, uncontrollable, and ultimately unintelligible complexity of real exchanges, which are constantly being subjected to attempts of ordering by those official protocols. The result is an embedded structure, constituted by formal and informal relations as well as by market and non-market exchanges.

This chapter is organised by stages in the journey of materials through two intermediaries and one final industry. It starts with a brief schematic description of the recycling markets in Curitiba. Then it returns to the transport of waste paper described at the beginning of this chapter, to depict the exchange with the trader. In this section, other intermediaries will be considered. The aim is to understand the character of the exchange that marks the entry of materials and *catadores* into a market circuit. The third section will look at what happens beyond *catadores* sight. Part of the distant relations, in which material markets involve *catadores*, will be unveiled. A factory that makes plastic wrappings and rubbish bin bags out of recycled plastics will illustrate this section. Finally I will present the chapter's conclusions, which open up possibilities of escaping the convergent and uni-linear drive of the formal market circuits, to be developed in the subsequent chapter.

The Social Geometry of Recycling

The material output of *catadores*' work contributes, in its overwhelming majority, to feed industrial production. Furthermore, the routes taken by the materials they extract from urban waste tend to converge, concentrating gains around particular sets of actors.

Take, for example, the recycling of aluminium cans in Brazil. At 98%, the country has the highest recycling rate in the world for this type of container (source: CEMPRE). In one of my pre-fieldwork interviews, a Brazilian journalist, working as a recycling campaigner in London told me:

“In Brazil, if you're on the street and you drink a can of beer, the right thing to do is **not** to dispose of the empty can in a bin. Throw it on the floor and you will prevent it from going to landfill, whilst at the same time making sure you are helping a low-income person.” [Fassini, 2009]

Recycling has become the right thing to do in many cities around the world. Thus disposal becomes an ethical issue, offering a material engagement with wider social and biological systems – a form of rational and moral exchange with the environment. What my informant was telling me above was that the frame of this engagement is radically different in London, where we both lived, from what it is in Brazil, where he came from and to where I was heading.

In Curitiba, during several open-air events, I could later see several people collecting empty cans from the ground. This scene can be multiplied by most of the 5 500 municipalities in Brazil to get a picture of the constant dispersal of labour for collection taking place throughout the country. To this picture, one can add the enormous army of *catadores* who regularly collect household and commercial waste (about 1 million individuals nationally in the estimate of reputable CEMPRE). Thus it is easy to understand why Brazil is the country that diverts the biggest percentage of aluminium

cans from the landfill: 98% (239,100 tons) of all the cans consumed in the country in 2010 (CEMPRE⁴⁶). But where do they go, all these cans, collected all over the country? Most of those empty smashed cans end up in one single city. According to the Brazilian Association of Aluminium , 170,000 tons of the alloy, i.e. 70% of all the aluminium recycled in Brazil in 2010, converged in a set of factories in one city in South East Brazil: Pindamonhangaba, 150km away from São Paulo.

The recycling of aluminium cans is an extreme example of the integration between the work of *catadores*, which the previous chapters have concerned, and the economic structures to which it contributes and with which it articulates. What is the shape of those structures? What lines can we trace by following the movements both of *catadores* and of the materials they produce? How does that meshwork of lines play out against the network of flows to form of a virtuous cycle assumed by the dominant models of recycling? Let's start with an attempt to place and describe the latter: the dominant model of recycling.

Unilinearity vs Multilinearity of Recycling

The *unilinear* models imagined by the official discourses (Figure 23) are only a small part of a much more complex meshwork of circuits that transport and revalue recyclable materials. That 80-90%⁴⁷ of the waste recycled in Curitiba is collected by *catadores* suggests exactly that. The model of two circuits of urban economy (Santos 1978; see chapter one of this thesis) appears particularly applicable to the configuration of recycling markets in Curitiba. Having been dubbed the “first world capital” during the last term of mayor Jaime Lerner (1989-92), and being a city of the Global South, the city saw a clear coexistence between “upper” and “lower” economic circuits, as discussed by

⁴⁶ http://www.cempre.org.br/ft_latas.php

⁴⁷ a figure discussed in chapter 2

Santos in the 1970s. In the city's official imagery and popular imaginary, recycling is one whole rational, unilinear, virtuous cycle, which is inspired by, and has inspired, a globally dominant model of environmentally sound urban government.

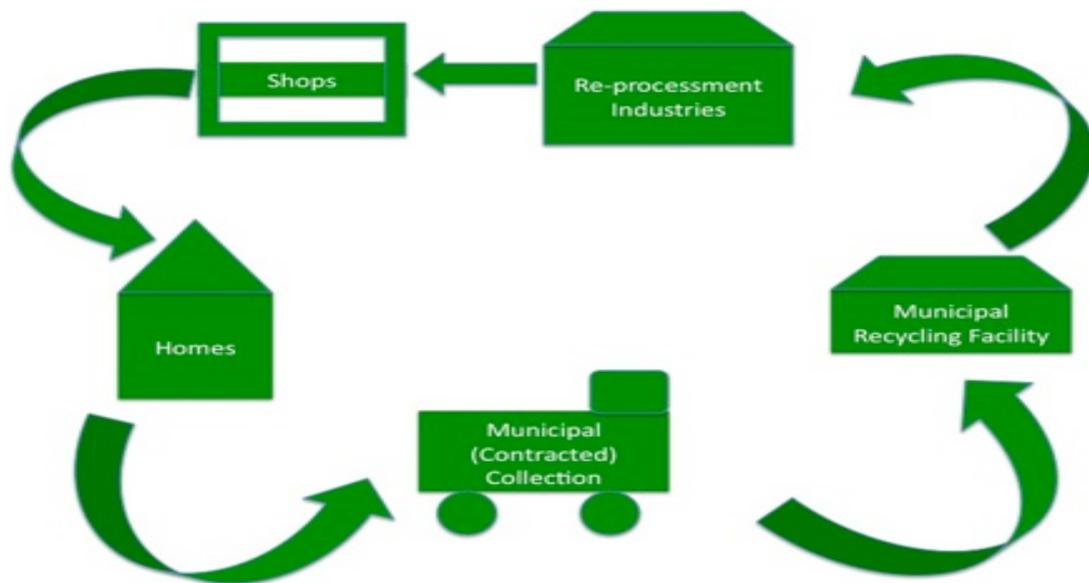


Figure 23 Schema of the official version of the recycling circuits of Curitiba's municipal waste

The “upper circuit” corresponds then to the official image of recycling. It is an imagined virtuous circle, in the shape of a closed loop, fed by environmental and social consciousness and made efficient by rational market transactions. In this model, the city collects materials, which have been separated by conscientious and informed citizens. Then it processes them in its recycling centre to then sell them to manufacturing industries. Furthermore, and this is a peculiarity of recycling in Brazil, proceeds of sales are distributed between salaries paid by the charity that manages the recycling facility and the municipal social services. The materials will be transformed into new consumer products to start all over again.

It is not that this circuit is completely imaginary or just simple propaganda. In Curitiba there has been a municipal system of door-to-door collection since 1989. In 2010, according to CEMPRE, less than 10% of the Brazilian municipalities had some system of selective collection. According to the same source, Curitiba was one of only eight

municipalities whose system of the selective collection of waste covered the whole of the urban territory.

In 2009, Curitiba's public cleaning department collected 25 000 tons of recyclable waste. This collection was done in two ways. Firstly, door-to door by the trucks of contracted company CAVO⁴⁸. Secondly, through a mobile drop off scheme, the Green Exchange, in which residents of less accessible neighbourhoods could barter 4 Kg of recyclable materials for 1 Kg of fruit and vegetables. These 25,000 tons collected by the municipality represent merely 3% of all the waste collected, i.e. including 750,000 tons that were disposed of in the municipal landfill in the same year (source: IPPUC). This is far from Curitiba's official recycling rate - 20%. The figure becomes more distant as we follow the cycle to its next stage.

The Municipal Recycling Facility

Curitiba's municipal recycling facility has functioned since 1989. It is a centrepiece of the official recycling circuit and a landmark of Curitiba qua "environmental capital". It features in several media resources of the city's promotion, under the names "garbage separation plant" (Rabinovitch 1992) or "waste transfer station" (*A Convenient Truth* 2006).

Its centrality in the official discourses about Curitiba's model of municipal waste management is contradicted by its quantitative participation in the city's recycling performance. The municipal recycling facility receives 800 tons of material per month, 35% of all the material collected by the municipality. The remaining 65% of this material is directed to twenty five certified private deposits across the city. If we include the fact

⁴⁸ CAVO is a company of waste management operating in 5 different States of Brazil, but with most of its workers in Curitiba. It has been the waste contractor of the municipality for At the time of fieldwork, it was part of the Camargo Corrêa group – a giant whose operations involve energy, construction, cloths and shoes commercialization, among others- and was the major founder of the electoral campaign of mayor Beto Richa (Gazeta do Povo: 03-11-2010)

that the facility rejects about 40% of its material intake as non-sellable waste, we realise that it only manages to sell less than 2% of all the solid waste collected in Curitiba.

The main impact of the facility results from its educational and promotional dimensions. The facility receives 2000 visitors every month, attracted predominantly by its museum of Rubbish (see the next chapter). Being the only recycling facility, it is a central node in the ideal cycle of inverse logistics promoted by city.



Figure 24 Curitiba's municipal recycling facility located in the neighbour municipality of Campo Magro

In fact, this 'ideal cycle' does very little when compared to the circuits fed by *catadores*.

According to the municipal estimates, *catadores* collect more than 10 times as much

material as what is collected by the municipality. The figure is obtained by multiplying the municipal estimate of the number of *catadores* (a very conservative estimate as we saw in chapter three) by an estimate of their average daily collection. The city's official recycling rate is obtained by adding this estimate to the official collection.

The material separated by the recycling facility (around 45 different products) is then sold to industries and intermediaries. The NGO that manages the facility invites around 60 clients for a closed bid. Every month the envelopes are opened in the municipal auditorium and the different materials are allocated [Alfredo Holzmann, director of the NGO which manages the municipal recycling facility, 2010].

All the income generated by the recycling plant's sales reverts to the municipal social services. The facility is funded by the municipal environmental services. In this distribution of financial flows Curitiba's municipal recycling system reflects the official discourse, in what it refers to as the distribution of value generated through recycling. The revaluation of waste is an environmental responsibility and generates an opportunity to promote transferences of money to economically deprived groups.

The official cycle of the revaluation of waste corresponds to a real set of material flows and economic transfers. It is ideologically enhanced and reshaped, but it exists. When I say that it is ideologically constructed and that it tends to dominate, organise, and conceal the second circuit, I am not saying that one is more real than the other. What I want to make clear up to this point is that the official cycle is responsible for a very small proportion of the material circuits. What makes it ideological is the claim that the official narrative describes, or even that it must serve as a model for the bulk of the movement of waste materials towards revaluation in the city. The real weight of recycling in Curitiba is under the veil of those claims.

The Meshwork of Recycling Circuits

The “lower circuit” comprises a messier network of transactions and relations, which occur predominately in a realm of informality (Figure 25). *Catadores* are the main actors of this circuit, even if they lack the power to exercise much control over it.

The lower circuit of the urban economy constituted by the part of the recycling markets in which *catadores* operate (cf Coletto, 2007) is in a dependent and subordinate position in relation to the upper circuit represented by the official model of recycling.

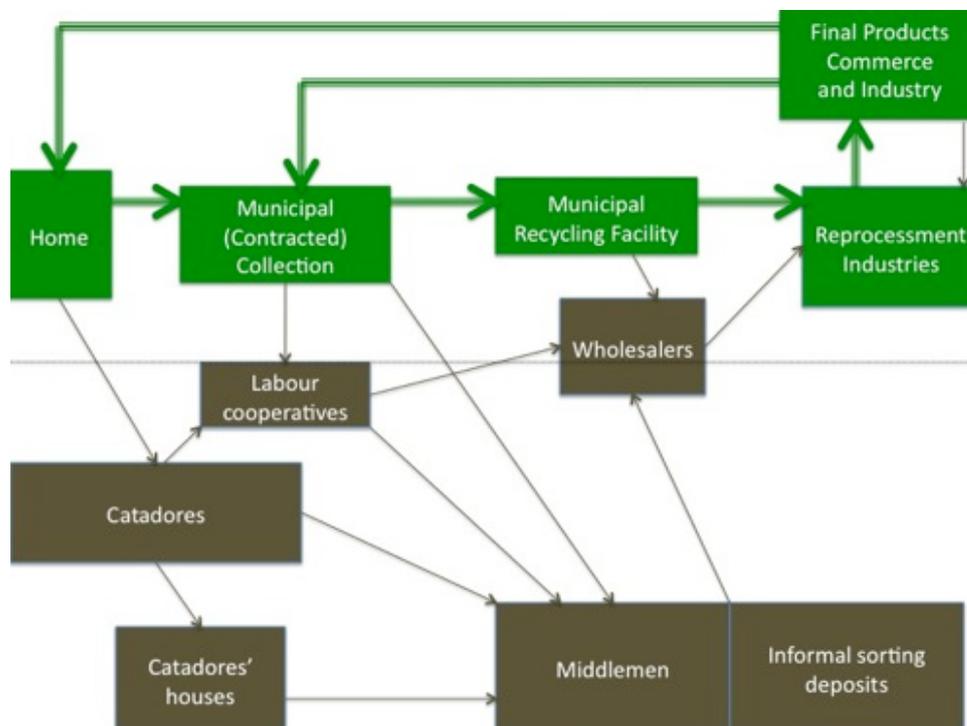


Figure 25 A simplified version of the two circuits of the urban economy of recycling in Curitiba. The arrows represent flows of materials.

In most cities in Brazil, informal collection and informal secondary markets existed (or exist) before municipal recycling schemes. This is the case in Curitiba, despite the strength of the city’s top down planning ethos and self-promotion machine. This has concealed the lower circuits in particular and has imposed specific forms of articulation between the two circuits. It is not that a ‘modern’ model replaces an ‘archaic’ form. Rather they coexist, one dominating and concealing the other. The aforementioned

“upper circuit” (in Santos’ model of “third world” urban economies) and the ‘dominant model of urban recycling’ are associated with modernity. The lower circuit and most alternatives to it are usually linked to backwardness and underdevelopment. Thus, the upper circuit of the urban economy assumes hegemony in public discourses and endeavours to contain itself from the others, both at ideological and economic levels.

I am arguing here that a particular recycling logic is superimposed over the multiple economies of the city. This superimposition, rather than solving the main problems on the ground, contrives to hide contradictions in the relations of production. Thus it promotes the convergence of materials and gains through concealing a part of reality from the public sphere. It also contains the elements of the circuit apart from each other, allowing them to exchange materials but preventing necessary counter-flows of information, power, and values. Thus different sets of values remain ascribed to different parts of the circuit. The character of the exchanges taking place in the circuits of urban recycling organise this uneven distributions. The following section will concern those exchanges.

A Market of Peculiar Exchanges

“According to Gusnerie, a market is a coordination device in which: a) the agents pursue their own interests and to this end perform economic calculations which can be seen as an operation of optimization and /or maximization; b) the agents generally have divergent interests, which lead them to engage in c) transactions which resolve the conflict by defining a price.” (Callon, 1998:3)

The trip described in the opening of this chapter, of a truck loaded with different sorts of waste paper, might be seen by economists as an example of the re-introduction of waste into a new productive cycle through market transactions. According to classical definitions of markets, such as the one quoted above, recycling markets are coordination devices that regulate interactions between calculative, self-interested, and individual agents, through the definition of price mechanisms. As such the transactions that preceded the cooperative’s sale of materials to the intermediary do not involve the settlement of prices.

In previous chapters, we have seen how *catadores* secure donations and/or appropriations of supply, through their work in the city and through cooperation, and how they can cooperate to better their position. In this chapter I am moving downstream, to the demand side. I am focusing on the social interactions that embed the transactions organised under market principles. The transition between what is generally called informal and formal economies is one of the key links in this process. At the end of the trip described in the initial pages of this chapter, one such transaction takes place. Let us then go back to the truck of waste paper from ‘Vila Cardboard’ as it reaches the buyer.

Through the “membrane”

*We arrive at our destination. Dambrosi is a large *aparista* - the formal corporative denomination for waste paper wholesalers (the literal translation of *aparista* is ‘trimmings dealer’). It deals with*

different sorts of paper, 'tetrapack', and pre-consumer plastics. The space has an area of 10 000 sq m. It is tidy and professionally organised, comprising three closed warehouses and a large office space. The company has a fleet of 10 trucks and employs 30 trained staff. The trucks have capacity for 13-27 tons and are used to collect and deliver materials. The load that we are delivering weighs 4.3 tons (as I read from the spread sheet inside the truck's cabin), hence the need to hire a private truck⁴⁹ to take the load to the buyer. As we arrive, we park under a sheltered corridor in front of a small window, beyond which there is a counter. I am asked to get out of the truck, so that it can be weighted.

As we step down, I notice that the truck is on a cement rectangle on the floor; it's the scale. The man behind the window registers the weight. The process will be repeated five times. In between, the truck follows a loop to unload each of the types of paper and the 'tetrapak' in the big warehouse behind the scale. Before I give a hand in the unloading process, I meet Roberto, who shows me around.

We start where the truck is being unloaded. There is a conveyer belt elevating material high up until it is dropped on an industrial baler. It stands in the middle of a large space of naked cement walls, against which, hundreds of parallelepipeds of various materials, weighing 700 kgs each, pile up. The bales dropped by catadores will be opened and repressed, since the baling machines in the cooperative make them no heavier than 300 kg.

Roberto, my guide, is responsible for Dambrosi's accountancy. The company pays more to associations of *catadores* than to other suppliers. Roberto's explanations for this fact swayed between ideas of social responsibility and economic rationality. He ended up by clarifying that associations' regular supply of high quality baled materials impacts on the better price they obtain.

As Roberto describes all the steps of the process, we walked through various spaces where paper is processed or stored. Dambrosi buys from several associations of *catadores* as well as from industries, from the municipal recycling facility and from informal deposits or *atravessadores* (informal middlemen). The latter, we have seen, buy their material from individual *catadores*. Dambrosi does not buy from individual *catadores* as it needs regular and large intakes of material.

⁴⁹ Paid for by the municipality via the NGO that runs the ecocitizen project

As we walk, I comment that middlemen are the point of transition between the formal and informal markets, as is Dambrosi. This comment seems to engage Roberto, who comments:

“Yes, that’s a good way of seeing it... it is. Because we have all the state licenses from the Environment Institute, everything is documented.... And when we deal with industries, we generally hand them a certificate of appropriate disposal, which the law requires.” [Roberto, Accountant at the Paper Intermediary]

We stop in a space where the noise from the working of people and machines fades out into the silence of hundreds of piles of compressed cardboard and shelves of cardboard rolls. Taking me for an affiliate of the association, he says, changing to a slightly half joking/ half off-telling tone:

“Aw, and speaking of which, taking advantage of your presence here, maybe you can help me, because we need, we need associations which must have all the CNPJ (collective fiscal number), that they are completely regular, I think. I think. We need to start writing fiscal notes of material entry (tax receipts of material) ‘against’ them.” [Roberto]

I am surprised that this transaction had no bureaucratic existence. An association created and supported by the municipality sells nearly R\$1500 of commodities to a registered enterprise and no official receipts are produced? What sort of transition is happening here?

Coletto (2010) refers to middlemen as “membranes” between formal and informal sectors: “As the recyclable material passes through this membrane, it acquires greater economic value” (2010: 80). Instead of providing mere sustenance, recyclable material starts generating profits, as it was made clear in Dalva’s story in chapter three. She was storing as much material as she could in her old house, waiting for the new association to start working so that she could avoid being overexploited by her middleman neighbour. She was collecting and selling recyclable material to sell to her neighbour for years and did not even manage to “save for a bicycle”, whilst the middleman had, in a matter of two years, “bought several trucks and houses” [Dalva, 2010].

Furthermore, these “membranes” act as filters, or permeable walls, between *catadores* and the official economy, allowing materials to pass but revenues and some kinds of knowledge to remain contained in each circuit.

Roberto continues:

“We have spoken to their accountant, we speak to I don’t know whom, and nothing happens... maybe it is our fault, maybe the boy who is our person responsible for dealing with the associations, who is actually my boss, maybe he hasn’t insisted enough, but it would be interesting if we could start... Because we have to account for all the material that gets in here. All the material that gets in Dambrosi has to be appropriately registered otherwise there’s no way it can get out. All industries give us material exit notes. When it comes to the materials from all the associations, we have to ‘find a way’ (*dar um jeito*), but it would make life much easier if we could produce receipts against the associations.” [ibid]

The very Brazilian notion of “*dar um jeito*” (find a way, sort things out), in this case reflects the persistence of informal practices, even in highly bureaucratized settings. But more than in the accounting issue, I am interested in the sort of socio-economic relationship that this moment signals. The fact that Roberto uses me to convey this message suggests that the channels to do it directly to the association are scarce or at least inconsequential. This is all the more surprising when one thinks that transactions between the two parts are regular. Furthermore, most associations are integrated in a municipal project and are supported by an NGO specialised in constituting formal micro enterprises from small informal businesses.

Apparently, the market transactions run smoothly and professionally. *Catadores* bring materials, which are weighed and paid for immediately. Associations of *Catadores* are even paid a higher price than other suppliers, as Roberto told me. Furthermore, the

weighing process is peaceful. The weight for which *catadores* are paid is usually slightly higher than the weight calculated by the association in advance. This was the case on that day.

Yet, the simplicity of the sale contrasts with the accountancy efforts of adjustment necessary for this transaction to take place and the difficulties in communication necessary for simple coordination issues. In a different context, Appadurai (1986) refers to the way commodities may flow more smoothly than knowledge:

“...the gaps of knowledge and the difficulties of communication between producer and consumer are not really obstacles to the vigorous bulk commodities intended for multiple industrial transformations before they reach the consumer.”(Ibid: 43)

Appadurai is focusing here on issues of authenticity and in flows of information downstream, i.e. knowledge that is left behind by the flow of commodities, but this idea can also be applied to knowledge flowing against the material flow. The containment of communication and power at different stages in the market circuits does not prevent materials from going through.

The contrast between the place from which this load of paper departed and the place where it has just entered speaks volumes about the contrast between the two worlds that are bridged by this transaction. On one end, we have the association and the adjacent *favela*; on the other, a large formalised private business in a well-developed industrial district.

Cooperative work makes this contrast more visible to *catadores*. Non-organised *catadores* have at least one more intermediary between them and Dambrosi, which means that they never deal with companies like the latter. Their buyer will be the local middleman like the one that does business opposite the association *Vida Nova* at the edge of Vila

Cardboard. Also for this reason, the sense of change and possibilities increases through cooperative work, as we saw in the previous chapter.

The dissonance between the flows of material and knowledge are also made more critical by the fact that we are dealing with waste. Waste materials are prone to many sources of quality disturbance, from its production (through consumption and disposal) to different stages of handling and storing. Recycling circuits demand high levels of coordination between all the links in the chain, in order to avoid contamination, deterioration, and decay. The discordance between flows of materials and knowledge, to which I have been referring, become visible further down in the recycling process when materials, collected by *catadores* and handled by different agents, reach the final stages of recycling. This will be apparent inside the factory that produces, from recycled plastics of different sorts, wrappings for several industries and rubbish bags for the consumer market. We will get there in the coming section, by following the trail of another set of materials – plastics. The plastics route starts with another kind of peculiar transaction. I will discuss it now.

Paternalistic exchanges

Tio Cid (uncle Cid) was a name I heard mentioned in seven different associations and cooperatives of *catadores* in Curitiba and in the adjacent city of Colombo. Cid is a middleman who buys plastics from *catadores*. *Tio* Cid is both the name of the company he owns and the name by which he is known by *catadores* and by his employees. The quasi-familial relationship, which the nickname hints, is an obvious part of the business strategy of this middleman. He buys more than 40 types of plastics from (or, as he is keen to emphasise, he has “partnerships” with) all the 13 associations and cooperatives of Curitiba as well as from several associations in the states of Parana, Santa Catarina, and Rio Grande do Sul.

I arrived at the space where Cid's business is located on a morning in December 2010.

The contrast with the conditions at the paper dealer described above is blunt.

Cid has 3 trucks, but one is lying broken down at the back of his office. Another is full of baled material waiting to be unloaded. There is a conveyor belt for separation, which also laid broken down and abandoned in the open air. "Someone will come to fix it today", Cid explains. A good portion of the bales lay in the open air, subject to dirt from the soil and deterioration from the weather. The covered part of his premises consists of, apart from the improvised office spaces, three brick walls topped by a sheet of corrugated metal. The impact of these conditions on the quality of materials will become evident in my later visit to one of Cid's buyers.

Cid invites me to sit in his office. He is drinking mate tea from a plastic bottle cooler made into a makeshift gourd.

"We're in this depot for one year and a half. We used to operate in a farm house (chácara) kind of clandestine but for four years now we are legalised. Well, my environmental license has expired last month - I have to do one or two things to get it back. But it is not a big deal..."

I got in touch with Cid through Waldomiro Ferreira, the president of cooperative *CATAMARE*. I witnessed several phone calls between the two men from the offices of the co-op in central Curitiba and in the premises of the Waste and Citizenship Institute. There was a visible familiarity between the two, founded on years of trade and frequently mobilised by Cid's comments about female members of the cooperative. Waldomiro would laugh shyly, sometimes obviously embarrassed, striding between engaging with the man and respecting his companions. Cid was notorious amongst female members and presidents of associations, as well as NGO support workers, for his sleazy sexist approach. Several women dreaded having to deal with him because of the discomfort resulting from his jokes and innuendos.

Despite his uncomfortable bearing, most associations seemed to be happy to have him as a buyer. In my first visit to *CATAMARE*, in March 2010, I heard Waldomiro agree a delivery with Cid. After hanging up, he informed me that he got back to selling to Cid after experimenting with some buyers who sometimes paid a higher price.

“They used to pay more but they are unreliable. Sometimes it is better to get a slightly lower price but to have security and consistency.” [Waldomiro Ferreira, President of CATAMARE]

Some months later, in his office, Cid confirmed to me Waldomiro’s point. In fact it is part of his business ethos:

“I heard this week that a buyer tried to *enter* other associations, but they called me again, because they say that I convey a lot of security to them. And also because I deal with them at a personal level. And of course there is the partnership⁵⁰. I am not an exploiter middlemen⁵¹ and I have established a partnership with them. I have earned less and taught them how to separate. For example, now the prices are getting much lower. And they will remain low until Carnival. There is a lot of material in the summer and the prices drop. Then after Carnival it picks up. But I keep on buying, even if sometimes I lose money.” [Cid]

For Cid, the reasons for his success amongst associations of *catadores* lay in his ability to provide security. He acts as a sort of welfare and insurance agent. In the middle of an answer to a completely different question, Cid shifted to attempt a conclusion to our interview:

“But what is the reason why associations buy from me? Which is what really interests you. It is that I give assistance, especially to *carrinheiros*, I pay every Friday, I pay cash, I help them in any necessity they might have, in any shape, if they ask me to give a talk I go and accompany them, and I have done it, and there were also some accidents that happened in which I gave support, even a homicide that happened in which I provided to the family (...). I look after the material I buy, it stays here in the deposit one day, maximum two, I am especially careful to deal

⁵⁰ “*Parceria*”.

⁵¹ “*Atravessador*”

with businesses that are legalised with environmental licence (...). This is why there are ten companies doing the work that I do, but they cannot provide the same service” [ibid].

For Cid, as he told me repeatedly throughout the interview, part of this provision of security consists of a sort of hedge against market fluctuations. Firstly, by making an effort to actively find buyers for all waste products, he guarantees that *catadores* reduce their unsold stock. Secondly, he pays on time. Finally, Cid says, he works with minimum profit margins, sometimes even making a loss at the low ends of seasonal fluctuations of price, whilst always trying to pass on to *catadores* any bettering of the deals he establishes with buyers (he also referred to these as “partnerships” – “*parcerias*”).

“...in Brazil it functions after Carnival, you know? Towards the end of the year, the price drops but I carry on buying. There was a case in which industries were paying 80 cents for one type of material. I kept on buying at 1 real, gave assistance to my client, paid the price that I used to pay and sold in January at a loss.” [ibid]

Other interviewees have contradicted at least two of Cid’s claims. The first one is that he always pays on time: several *catadores* and support technicians told me that Cid does not always pay as regularly as he says, even though he is better than most middlemen. The other claim that has been contradicted through triangulation refers to his handling of materials. When I visited the factory of one of Cid’s former clients – see the next section of this chapter - the quality of Cid’s materials was disputed.

The case of Cid and his relationship with associations of *catadores*, configures a particular type of socio-economic relation, which in Brazil is often referred to as *paternalista* - ‘paternalistic’. The case of Cid can be seen as a sort of milder version of paternalism. More harsh manifestations of this type of relationship between *catadores* and middlemen are prevalent when it comes to non-cooperative work. Stories of middlemen who

regularly pay *catadores* in drugs, such as crack cocaine, and/or host them in the premises where waste is stored, in highly insalubrious conditions, are very common.

Debt and other sorts of dependency between ‘non-organised’ *catadores* and middlemen were out of the scope of my fieldwork. Yet, the stories I heard from different participants both in the first person and in reference to colleagues and neighbours, as well as the situations described in published research, reveal a pattern of more or less exploitative paternalistic relationships. These are characterized by unequal power, personal dominance, and dependency. In many ways, the collective power attained by *catadores* in associations allows them to establish freer, more advantageous, and more equal relationships with their buyers. Yet they seem to be marked by a mild version of the same patterns.

In this light, what sorts of circuits of economic exchange ensue from exchanges such as the ones analysed here? Can a market, which is ideally based on rational relationships, in a weberian sense, be sustained by relations of ‘paternalism’ and permeated by what I called here, following Coletto, ‘membranes’ (2010: 80)? Moreover, what are the effects of these configurations of the circuits in the subsequent stages of recycling? Tackling these questions will allow us to have an idea of how the “cycle” in recycling is completed, and of what sorts of value it generates and destroys in its making.

A Glance Beyond the Membrane

Deep into the state of Paraná, some 300 Km away from the capital Curitiba, stands Irati. In this small town of just under 55 000 people, an eponymous industrial site makes bin bags and industrial wrapping film out of post-consumer and post-industrial plastics. The fact that Irati Plastics makes rubbish and recycling bags out of waste plastic provides a curious circular twist to my fieldwork, which contributed to my original attraction to the factory.

During my visit to ‘Uncle Cid Recycling’, I asked Cid for contacts of factories that buy from him. He suggested several. Between them, these factories produce a wide range of objects, such as buckets, brooms, washing lines, and bed sheets. I chose Irati Plastics partly because it produces bin bags. The other attracting feature for me was its location - the nearest of the final processor of plastics suggested by Cid. Even so, in order to visit it and interview its owner I travelled for more than five hours on a coach. The fact that most industries of reprocessing are distant from the city makes it even more difficult for *catadores* to circumvent the role of middlemen. Cid phoned the factory owner in front of me, asked him to receive me, explained my purpose and two days later I was arriving at Irati.

Sérgio, owner and executive director of Irati Plastics, collected me from the bus station and drove me to the factory. Some minutes later, in his office, “entirely decorated with recycled materials”, I found out that he actually stopped buying from Cid six months ago: “I am still opening the bales of material that he sold me; every time I do it, I have some nasty surprises...” [Sérgio, owner of Irati Plastics] He explains:

“Sometimes we receive bales of 200-250 kgs and when we open them there is 10-15% of other materials. And on top of that direct loss there is the loss derived from contamination from organic matter, fat, and other plastics that are not

mixable. What happens with *catadores* ahead of the process is that they sometimes collect other materials and then they get mixed up. And then enters Cid. If he just receives and passes on the bales, he has no way of accompanying the quality of the material. So what we ask from all our suppliers is that they follow and check the material from its origin.” [ibid]

The problem, for Sérgio, is that the middleman buys the materials and passes them on to the industry without doing any quality check. Furthermore, the physical condition of Cid’s deposit means that materials are “dragged directly on the soil and kept for days under rain”, which “aggregates even more contaminant value to the materials”.

But there are signs of change, for Sérgio:

“Cid is now, I hope, changing his philosophy, but I have told him: until I finish with all his bales and then verify that he has changed the way he works, I will not start buying from him again” [ibid]

The boss at Irati Plastics told me that he had a few meetings in Curitiba with the municipal environmental services in which he asked for a better management of the materials.

“The problem with *catadores* is that they sometimes interpret the municipal intervention as *assistencialism* and not with a commercial attitude. From the moment that they understand that this is an economic activity, that they have to survive from it, then they will start valuing the product. And the problem is that often *catadores* don’t value adequately the material that they are processing.

Catadores collect a great part of the material that circulates. So there needs to be a strong conscientization of *catadores* to control the quality of the products they process.” [ibid]

Sérgio has also visited some associations, but it was difficult for him to do it more often because he was distant. Therefore, “the link, even of friendship, between the person who is there and buys from them every day is crucial”. The industries cannot buy from *catadores* directly until they manage to centralise distribution and attain some financial sustainability in order to delay the time lag between the collection and sale of materials. Industries need to have large quantities supplied at regular times.

From the perspective of the manufacturer who uses recycled waste as raw materials for a productive process, the work of *catadores* and middlemen should input as much quality as possible in the material. It is difficult for him to reach the circuit at its origin, so the role of the middleman is crucial. The notion of “membrane”, to which I referred above, reappears here. Not only because the middleman acts as a barrier to knowledge transference through the close personal relations he establishes with *catadores* and endeavours to establish with the industry, but also because his material role in the productive process may assume a passive or even destructive character.

Irati Plastics turns out around 40 tons of products every month. It is seeking to double the production. In order to increase efficiency, Irati tries as much as possible to promote closer circuits of production. This means in some cases disconnecting from wider networks of supply like the ones initiated by *catadores*.

For Irati Plastics, the environmental concern is closely related to economic efficiency. Due to the fact that they work with waste materials, the washing process is critical. For this reason, Sérgio asked me to stop filming when he showed me the washing process that he has developed through the last 6 years. He believes they have a washing system that is well ahead of his competitors and he wants to keep it secret. Because water is so important, they have a set of water deposits that collect 150 000 litres from rain. It can be filled in 2 or 3 hours of heavy rain, which happens frequently in the region. The one

biggest cost that they cannot avoid is electricity. Sérgio believes that because of the environmental work his company does, it should be exempted from paying tax over electricity consumption. He thinks it is fair to pay for electricity but it would be a good help if they did not have to pay tax on it. He complains that they do not have any support from the state for the work they do for the environment. We have seen how cooperatives equally claim exemptions from tax payments due to the environmental service they provide.

As for Irati Plastics, it may be true that the state provides no direct financial support, neither from subventions nor exemptions. But one must factor in an important indirect support. Environmental laws force industries to hold certificates of direct disposal of their waste materials. This gives Irati Plastics something that can be used as currency in the acquisition of their raw materials. The capacity to issue certificates of correct disposal allows them to pay lower prices, to guarantee supply of high quality materials from industries, and sometimes even to acquire materials free of cost. This increases the number of potential suppliers making more likely the establishment of desired closer loops of recycling. Thus the environmental value is transformed into market value so as to be accounted for in this transaction.

The character of transactions observed in the recycling circuits causes several forms of concealment in between the different parts. The information about the quality of the materials reaching Irati Plastics does not reach *catadores* and the system of washing in Irati Plastics cannot be shared with its competitors. Concealment also configures the system of different ‘containers’, and not only because different materials have to follow different routes. Thus market values tend to rule transactions from the point that *catadores* negotiate with middleman, whereas environmental and social values remain contained at the point of sourcing waste materials. Thus *catadores* assume a crucial

position in the circuits, as they operate in between systems of value that are apparently contained separately from each other.

Conclusion: Multiple Circuits, Defying the Idealised Market

Cities that rely heavily on informal ‘scavengers’ to separate consumer waste streams, thus making recycling possible, are often seen as underdeveloped. They have not yet become modern. At some point, it is general belief, the official systems of public campaigns and municipal collection will assure that there is both an informed population, and that the technology is set in place to divert materials from reaching landfills and channel them into the production of recycled raw materials. These modern systems and networks will then replace the archaic models based on the informal work of the urban poor.

This is, however, a “market utopia”, to borrow Karl Polanyi’s formulation. In fact, the city of Curitiba has developed a dual network of urban recycling. On top, the notional modern recycling circuit: closed, unilinear, perpetual, self-sustained. At the bottom, responsible for moving at least 90% of the materials recycled in the city, a lower circuit: multilinear, messy, diffused, and convergent, regenerating itself in communication with the upper circuit. Between the two circuits there are intersections, lines of communication, and “membranes”. The lower circuit feeds the upper circuit with raw materials and gives it the conditions to generate profits, whereas it barely provides the possibility of a basic livelihood for its makers.

The unequal relationship and concealing articulation also keeps *catadores* in a position of exclusion from knowledge. This generates difficulties in the coordination of the whole chain, whilst perpetuating a situation of dependency and exploitation.

By researching the two circuits of urban economy in Curitiba, I endeavoured to understand the spaces and technologies that constitute the market exchanges; I sought to trace the complex meshwork that is concealed by the ideal recycling models.

Recycling conveys an image of self-sustained, unilinear circularity manifest in its symbol, in the composition of its word, in the policies that enact it. There is a kind of

fetishisation of the closed loop that dominates over other configurations and conceals the possibilities they contain. The reality is much more complex even if the dominant cycle imposes a unidirectionality and convergence of material rewards.

With this chapter, the first portion of this thesis is completed. It followed waste materials from collection to reprocessment, to depict circuits that are made invisible by the rhetoric of the environmentally-friendly city. In itself this description is meant to foreground the stories that are wasted by the official narratives. But my aim goes beyond narrative purposes.

Underlying the description of these circuits breeds an intent to find out what sort of values are generated through waste-picking and through the particular activities that are made possible by it. I recall here, chapter three's insistence in the particular notions of time and speed and of self-worth through labour, which, even before any organisational engagement, affirms alternatives to the dominant capitalist/Fordist work ethics. Ecology is an important lynchpin in the introduction of these values into a dynamics of confrontation with assumed values of industrial time and productivity. One can also remember chapter four and the ways it shows the collateral dynamics generated by cooperative production. *Catadores* come together in associations and cooperatives to gain space in the economy, not to challenge the values in which it stands. Yet since their inception, these organisations are hubs where other values can be generated. Inasmuch as they bring together isolated informal workers in the same space, associative dynamics make possible the realisation of educational projects, political engagement, and the simple generation and exchange of information and ideas. Thus real change starts being procured and achieved. Chapter seven will dwell on *catadores'* political struggle at the level of the state. We will know more about the results of their struggle in legislation and

policy and on the value discussions it generates between different representatives of the state.

In this chapter I sought to discuss different types of exchange in the market circuits of waste material. My aim was to defend that, contrary to generally accepted perspectives, it is exactly the failure of real circuits to conform to the perfection of unilinear cyclic models that opens up space for the generation of alternative circuits of value. In what follows I will unpack the “lines of flight” that emerge from this configuration. I will show how waste opens up the possibility of routes that escape unidirectionality and unequal relations of production. Often, unplugging from the network is the most productive way to do it. At each point in the recycling process there are different possibilities for what to do and where to go next. Yet, people are usually confronted with messages that erase alternatives by imposing one best way to go. This opens the ground for political intervention in wider arenas. *Catadores* try to explore these spaces in different ways. The next chapter will discuss how *catadores* strive to break free from the exploitative relationship in which they see themselves entangled, whilst they fight for integration and a better position in the urban economy. The key to breaking free from those cycles of exploitation lies not only, and not crucially, in the power of collective bargaining, but also in the possibility of challenging dominant systems of value. I will illustrate my point with examples gleaned during my fieldwork.

Chapter Six. Countercycling: Alternative Circuits of Value



Figure 26 One of the creations of Pedro Gapiuna, sculptor, who works exclusively with scrap metal.

Introduction

Most of what was discussed in chapters three to five concerned how recycling circuits solidify in particular structural arrangements. Conjoined efforts to establish sustainable cycles of waste revaluation single out flows of materials, streamline people and labour, and bend chains of transactions into circular shapes. The chasing arrows of the recycling symbol form the ideal image for the construction of these circuits. In reality, the circuits are multiple, even if they tend to be convergent, concealed, and contained within its different parts.

This study has shown different ways in which those structures enclose, concentrate, divide, exclude, and conceal, at the same time as they generate opportunities for urban poor, open up possibilities for wasted objects, integrate residents into a wider system of recycling, and render more intelligible part of the routes taken by urban discards.

Residents, who participate in building these structures, are also entrapped by them. They may be consumers striving to follow instructions on how to separate their growing discards; or they may be urban poor enticed by the possibility of making a living out of stuff that is 'up for grabs' throughout the city. They may all feel that the promises from this form of engagement with the wider economy are partly fulfilled. However, consumers and recyclers may also feel frustrated by those promises, as tantalising goals are repeatedly missed.

If consumer residents can give up on the sorting of household recyclables as one possible reaction to that frustration (and this has been, from my experience, the case for many Curitibaans), for *catadores* this would be a dire possibility. Their livelihoods are, if precariously, intrinsically connected to recycling; therefore they have little choice but to keep on sourcing, sorting, and selling waste. The previous three chapters concerned the ways in which this attachment to an economy that excludes them occurs. By following

materials through established routes, I sought to investigate what forms are congealed through this particular tangle of transactions and transformations, and the ways in which *catadores* hinge with them.

Throughout this journey, I encountered several instances in which the recycling of waste opened up possibilities, only to then immediately narrow them down. For example, the hope offered by the solidification of an informal activity into a bureaucratically recognised occupation is frustrated by the prevalent ostracism and/or squirm with which other residents react to the *catadores*' presence (cf chapter three). I have also shown how promises of cooperative labour are partially curtailed, from the outset, by the impossibility of most associations to establish themselves as real cooperatives (cf chapter four); then also by associations' tantalising failure to access higher links in the recycling chain (*ibid*). Political disagreements between external organisations (which the next chapter will discuss) also reduce the possibilities of making wider use of state support. Finally, the promise of a livelihood offered by the development of the market of recyclables continuously frustrates *catadores* through its tendency to make profits converge away from them— through its extreme volatility, through the containment between its connected parts, and through the concealment of the relations that it engenders (cf chapter five).

To sum up, I have discussed how recycling opens up new possibilities for revaluation only to then enclose them in one particular structure and univocal system of value.

Homologically, we have seen through the ethnographic data how *catadores* seek (and to some extent find) in recycling a source of livelihood and a medium to aspire to a better condition, and how they then repeatedly have their aspirations shattered by their vulnerable condition.

The question at this point is, how can the potential and promises offered by recycling be fulfilled? The last two substantial chapters of this thesis try to answer that question.

Having shown how recycling promises to open up potential and then closes it down, this study will concentrate on the argument that in order to break up with the cycles of exploitation in which *catadores* are entrapped, one must challenge the very concept of recycling as we know it.

Therefore, this chapter discusses the concept of countercycling, which refers to the revaluation of materials in ways that counter the reproduction of the very system of value that generates the waste problem and excludes *catadores* from the gains generated by its dominant solutions. *Catadores* are more than just recyclers. It is true that by and large, they introduce waste materials in exogenous circuits of value. But they also generate new values, build new circuits of value, and engender explicit forms of resistance to univocal modalities of value creation. In these capacities they are not just *re-cycling* – they are also *counter-cycling*.

Structure of the Chapter

This chapter starts with *catadores*' particular association with materials. First and foremost, waste-pickers can look at materials, in the same way as “hackers” and “media pirates” look at digital devices and cultural objects, i.e., by deploying their own creative potential with the view to subvert the restrictions of use imposed by dominant systems of classification (cf Sundaram 2011). The first section of this chapter argues for the need to free the general perception on materials from the cognitive and political constraints of their particular histories. The work of Hawkins on PET plastics reinforces this point by looking at the histories and potentialities that are folded into the material (Hawkins 2011; 2013). Her argument will be discussed in order to give sense to the examples that follow.

Secondly, the chapter is concerned with the ways in which *catadores* imagine their place in the structure of recycling and how they imagine their ways up or into the system, in order to beat their peripheral position in it. They may imagine that movement as individuals. In the same way as many of them moved to Curitiba to find in recycling a better income than they could possibly have in a different State or in a smaller city of Paraná, they may imagine other movements within the local or global circuits of recycling as ways to counter their marginal condition, or they may imagine this movement collectively. In both cases they may conceive of ‘short-circuiting’ operations, that is, they may aspire and plan to move closer to more profitable loops of value; or to create new circuits of materials recovery that feed back into industrial process. The notion of ‘short-circuiting’ will be introduced in this section in order to distinguish these forms of aspiration from the notion of counter-cycling. The latter is used to account for the creation of alternative circuits, in which collective organisation and liaising with other organisations is essential.

The final section of the chapter concerns the ways in which experiences from other organisations in Curitiba may serve as templates for schemes of diversion of materials and objects from consumptive and exploitative circuits of recycling. In order to find those routes towards new ways of revaluating waste, learning with examples from other organisations becomes a crucial aspect. The mechanism of empowerment here is the possibility of disconnecting from the dominant circuit of production that generates the social and environmental problems, which recycling promises to confront. Ivan Illich’s notions of “unplugging” (Illich 1981) and “tools of conviviality” (Illich 1973) are crucial here.

The Materiality of Possibilities

Materials have affordances that can be expressed as political devices (Marres and Lezaun 2011; Hawkins 2011). According to Minuchin, materials play an important part in “articulating and mobilizing alternative urban imaginaries”. (Minuchin 2013: 258) The author focus on the appearance of concrete – the building material – in urban planning , in the first half of the twentieth century, and the ways in which it offered possibilities to reconfigure regimes of valorization and expand the possible futures. Materials can be “a thread from which to reconstruct the staging of contrasting urban projects and sensibilities.” (ibid) Thus material politics is a critical place from which to look at crucial urban dynamics.

This is particularly relevant in the case of plastics, which are designed with specific uses in view and then end up being deployed in very different capacities. The case of PET (polyethylene terephthalate) provides a very eloquent case in this respect. Plastics’ “economic capacities are not so much intrinsic as *enacted*. Plastic’s economic values have to be elaborated and produced” (Hawkins 2013, 49).

Designed as a raw material for textile manufacturing (polyester), the uses of this polymer resin have diversified. Like other plastics, PET was created and has been widely used for its plasticity, mouldability, and resistance to decay. In water bottles it has also been used for its lightness, portability and, ultimately, disposability.

The single-use water bottle is a recently created object that has become ubiquitous. The tension between these two properties of PET water bottles —disposability and resistance to decay — generates an explosive accumulation of this material in the world, ultimately circulating in waste streams. Hawkins insightfully remarks:

“Like many plastic objects, it [the single-use water bottle] appears as rubbish from the beginning. It may have momentary functionality as packaging or as a

container, but this is generally subsumed by its more substantial material presence as a transitional object — as something that is *made to be wasted*.” (Hawkins 2013: 50)

Is it possible that this tension between these conflictive characteristics of the material can be dealt with in a productive way? I recall here Stark’s argument that many processes of organisational change originate in the coexistence and friction between different evaluative principles (Stark 2009:13). The association of this view with Thompson’s identification of rubbish-making with a transition from “regions of fixed assumptions” to “regions of flexibility” (Thompson 1979: 95) gives rise to the following question: Should we look at PET recycling as problem of “re-cognition of resources” (Stark 2009: 9)? If that is the case, this could be an injunction for a more political stance on the possibilities of waste materials in general.

PET plastic, with its particular characteristics and histories of enactments through social assemblages, provides a telling example of the pliable potentialities of materials. In the form of waste, the material gains an added layer of political contention — by way of the possibilities that waste introduces (Reno and Alexander 2012). PET waste is thus a rich material that demands an open engagement and the mobilisation of different forms of evaluation.

This open engagement with materials depends also on a “democracy of the senses” (Back 2007: 25). As with other principles of evaluation, sensuous emotional reactions and intellectual perceptions on waste demand embracing conflictive systems of value. Let me clarify this point by presenting an anecdote from my fieldwork, before moving closer to the ways in which *catadores* may and do exploit the potential for materials to go beyond the oppressive boundaries of formal recycling.

The Football Match

It is evening-time in Curitiba. I have been invited to play indoor football. As I'm looking for the venue, I realise I'm in the same borough as the main cooperative of waste-pickers in the city - CATAMARE. Only whilst playing do I realise how close I am. As the game progresses, my lungs demand more oxygen. I become more sensitive to a whiff, which I have smelt all along, halfway between smoke and rotten fruit. The smell is more intense in some parts of the pitch. Strangely, it is also starting to feel intriguingly familiar. By the end of the game, I have confronted the smell with the memory of the map that I consulted to find this address. The wall behind one of the goals is also the back wall of CATAMARE. I didn't recognise it before because I accessed it in the dark, through a different route.

After the end of the football game, chatting with the other players, I meet one artist who is carrying out an education project that entails building houses out of used water bottles. The project is a playful exercise in art and environmental education. In order to do it, the artist is buying PET plastic bottles from a middleman, who presents his informal enterprise as a cooperative⁵². He pays 7 to 10 times the price that cooperatives of catadores get for the same material. This middleman that sells to the local artist probably pays even less when he buys from individual (non-associated) catadores. I would expect that the price asked by a middleman for the purchase of comparatively low quantities of material is higher than the market price. But this difference is huge. Clients like this would be precious for cooperatives and associations of catadores. Yet, because some middlemen's deposits advertise their services, they tend to be more visible in the city. Thus, they are more likely to secure this sort of irregular yet more profitable demand. I tell my new acquaintance that we are next door to a real waste-pickers' cooperative and that he could buy the plastic bottles from them. Until the end of fieldwork, I never manage to get further response from the artist, who lives in a distant part of town. But the short exchange has made me aware of possible opportunities for catadores to explore.

Materiality and Possibilities

Teaching young people about waste by building houses out of empty water bottles appeals to the use of creativity and the senses to challenge taken for granted notions of waste and value. I have argued that waste, rubbish, and junk represent arbitrary

⁵² See chapter 4 for more on 'cooperगतos' (catcoops) - fake cooperatives.

judgements of value that impose themselves as natural. To some extent, this process of naturalisation occurs through sensuous embodiment.

For example, the manifestation of waste in the urban smellscape reminds us of its presence and its aliveness. But our reactions to it are contingent. There is a “hegemonic sensibility” (Rhys-Taylor 2012: 61) that associates certain smells, along with the people who inhabit their vicinity, with squalor. We are socialised to repel particular sorts of smell and end up doing so without thinking.

During several previous visits to cooperative CATAMARE I neglected this particular smell. It merged in with the context. The embodiment of the research experience made it integral to the environment. Yet when I experienced it whilst playing football, the smell stood out. Likewise, I recall Lia telling me how people in the city held their noses when passing by her, thus performing repulsion (chapter three). I accompanied her through her working day and didn't find the smell of her working materials any less familiar than the smell of cars and bus fumes around us. Yet passers-by seemed to notice it and were eager to express disgust.

The smell of rubbish in the city is prevalent and reveals the way it spills out of its containers even, or rather especially, when left alone. In recent arguments in the social sciences, defending the social agency of things, from Science and Technology Studies, material cultures, and speculative anthropologies (cf Latour 2005, Miller 2009, Ingold 2011), waste, with its constant bio chemical processes and its ability to “bite back”, can be used as a rhetorical example (e.g. Bennett 2010; Reno 2012). As Robert Sullivan humorously puts it:

“the (...) garbage hills are alive (...). There are billions of microscopic organisms thriving underground. After having ingested the tiniest portion of leftover New Jersey or New York, these cells then exhale huge underground plumes of carbon

dioxide and of warm moist methane, giant stillborn tropical winds that see through the ground” (quoted in Bennet 2008: 6)

In the midst of all the action within the rubbish of the city, different materials lend themselves to different possibilities, whether for composting, industrial recycling, or archaeological purposes (cf Rathje 2001; chapter one of this thesis). Recovering those objects and materials depends on the ability to save relatively inert substances from organic decadent ones and from different sorts of chemical degradation.

Among the contents of the rubbish bin, waste plastics do not command quite as much repulsion as smelly organic material. Yet, their degradation may be at least as poisonous to human life. For example, plastic bags, even the so-called ‘degradable’ ones, are usually simply photodegradable. This means that, when hit by ultraviolet rays, they break down in ever-smaller pieces, without being reintegrated in life cycles. Tiny pieces end up in water streams and spread out through the oceans, where they make their way through maritime currents (cf Gabrys 2013, 210). According to Richard Thompson (2010: 2156) very small plastic particles are at least as much a cause for concern as the more visible phenomena, like the infamous oceanic garbage patches (Gabrys 2013, 208).

Garbage patches are formed by the concentration of waste materials — especially floating plastics — directed by spiralling oceanic currents to what become giant islands of rubbish. One of the most famous cases is the Pacific gyre between Hawaii and California. Again a social problem is generated by materials and objects made by men and women, which seem to acquire a sort of agency of their own (Reno 2012).

The point I am trying to make here is the fact that plastics will not rot, which is a characteristic appreciated by consumers, but may become a major problem when they circulate as rubbish. The proliferation of waste plastics is a manifestation of what Teresa Brennan calls a form of “death beyond decay”, which in her view characterises the

present state of capitalism. At the beginning of “Exhausting Modernity” Brennan states that commodification, “which is the key to capital accumulation, converts living things into dead ones” (Brennan 2000: 2)

If we think of the amount of disposable water bottles and supermarket plastic bags disposed of every day in our cities, we will have an illustration of how life energy stored in oil is transformed in large quantities into materials that do not die as living things do. They die beyond decay. Brennan calls it “a more complete and final form of death” (ibid). Plastics are today at the centre of the most destructive dynamics of capitalist production, both in its “after-life” – in the form of waste – and in its “pre-life” – through the impacts of the passage of plastics “from oil-bearing rocks (...) to homes” (Marriott and Minio-Paluello 2013: 172)

The composition of urban waste results from the domination of one particular mode of production. The movement, speed, and circulation of that waste results both from specific forms of waste management and from autonomous dynamics of the materials themselves. The growth of waste plastics on the planet is a matter for the confrontation of alternatives, rather than an enclosure in a single solution. Waste plastics may be seen as a matter of public concern rather than just a matter of fact (cf Latour 2005a). Yet they are predominately offered a single route of recovery (materials recycling) and are often used to make objects that reduce their potentiality.

Thus, this mode of the production of goods also produces peculiar assemblages of waste materials. Through the detachment of the football experience described at the beginning of this section, I came to recognise the smell of recycling spaces, such as cooperatives of *catadores* and material recycling facilities. Apart from paper, the bulk of the waste circulating through these spaces is composed of objects made of non-bio-degradable materials: plastics, metals, and glass. By and large used to contain food products, these

objects still bear residues of milk, juice, beer, and food, albeit in much smaller quantities than the contents of the general rubbish bin or dump. Physical processes, bio-degradation of residues, and chemical reactions involving non-organic materials confer to piles of recyclable objects a distinct smell. It is a smell of a particular assemblage of waste material that, left on its own, would not turn into life-cycle compost, but would quickly deteriorate beyond recovery. This smell seems to be shouting for a fast turnover in order to allow for the subsequent processes of separation, washing, and reprocessing.

Recycling PET Bottles

In the processes of recovery, PET is one of the most sought after materials, especially in the form of plastic bottles (recycling symbol '1'). PET is now widely recycled through different industrial processes.

Clear PET is one of the few materials that is recycled in a closed loop, replacing virgin PET of the same grade (Hopewell et al 2009: 2118).

PET is also recycled through downgrading, or secondary recycling — replacing other materials in the manufacture of objects that wouldn't necessarily be made of PET. The latter process is also known as 'downcycling'. A large part of what really happens under the representation of the 'chasing arrows' logo is in fact the use of recovered materials to do something different than it was before, usually something of a lower exchange- and use-value.

Both primary and secondary recycling are mechanical processes. Additionally, PET is the type of plastic more successfully used in chemical recycling in which the fabrication of the polymer is reversed. Chemical recycling (tertiary recycling) is, for most other plastics, impossible or uneconomic.

Finally, PET is a valuable material for incineration (quaternary recycling). Being composed almost entirely by Carbon, Hydrogen, and Oxygen, it contains high energy content, producing more easily controllable by-products (ibid).

The fact that PET waste appears mainly in the form of used plastic and juice bottles makes it much less prone to contamination than other post-consumer food rating plastics. Furthermore, the shape of the object is also important, due to the differences in the moulding method. Water bottles are blow-moulded whereas tubs and trays are fabricated by injection into a pre-formed mould, or stamped-out of sheet plastic. This makes water bottles more easily re-mouldable than other objects made of the same material (MacBride 2012: 178).

The main obstacle to recycling PET bottles is the difficulty in retaining its most valuable combination of properties: impermeability to oxygen and clear transparency. Pre-selection, sorting methods, and cleaning processes become crucial for efficient recycling.

All of the above processes of industrial recycling involve predominantly a sequence of washing, crushing, drying, decontaminating, and melting. Through these stages, many different products are generated. When streams of types of PET can be isolated and contamination kept at washable levels, recycled PET is turned into food grade plastics (used to make new water bottles, for example). However, in its vast majority, recycled PET is converted in other materials such as fibre (polyester) and non-food plastics.

In some cases, introducing other values can compensate the lower grade of the recycled material. For example, in the 2010 world cup, the Brazilian football national team was proud to have their shirts made out of recycled water bottles. Like Nike (the team's sponsor), other smaller companies have used the discursive power of recycling to promote their clothes.

The Alchemic Promise

The dominant processes of recycling involve “deforming objects before they can be reformed”, to use Jennifer Gabrys’ definition (Gabrys 2010: 138)⁵³. In these forms of revaluing used PET, one can see the extension of the ‘promises of plastics’ beyond disposal. The use of plastics has grown from nearly non-existent in the 1950s to an annual production of over 300 million tons in 2010 (Thompson et al 2009; Hawkins 2013) in its numerous petro-chemical variants. This explosive growth of new materials in the world rests on a quasi-alchemic promise. A dark, viscous, and apparently abundant material like oil is transformed into highly mouldable and valuable materials, which can then be reshaped and reprocessed without ever degrading. This is the promise.

One can argue that this promise begins being broken from the first stages of production. Around 4% of all the oil and gas extracted in the world is used to fabricate plastics, whereas another 3-4% is used as energy in its fabrication (Hopewell et al 2009). Several conflicts arise from oil extraction and transportation (Marriott and Minio-Palluelo 2012). There are controversial human risks involved in the production and moulding of plastics as well as recurrent discoveries of harmful consequences of the uses of plastics (Thompson et al 2009).

Developments in plastic recycling have allowed the refreshing of the alchemic promise of plastics. In the background, however, industrial recycling tends to consume high quantities of energy, as most industrial processes do. They also generate large quantities of waste, thus subverting the zero-waste utopia contained in the recycling promise (MacBride 2012; Gabrys 2010). In the context of cooperatives of *catadores*, attempts have been made to salvage plastics from these cycles of wastage. Thus, reuse and revaluation

⁵³ See also chapter 1 of this thesis.

of plastic waste can be done without crushing or melting objects, through processes that can be controlled or even invented by *catadores* themselves.

Alternative Revaluation of Plastic

I mentioned, at the beginning of this section, an example of the use of plastic bottles for educational purposes. It did not involve industrial processes of crushing and melting. It did not involve waste-pickers either, at least directly. Some cooperatives of waste-pickers have devised initiatives that similarly use objects in different capacities. I saw an example of this in my first visit to CoopZumbi, a cooperative of *catadores* in Zumbi dos Palmares — a poor district in the Metropolitan region of Curitiba.

Before fieldwork, I saw, on the CoopZumbi website, an announcement for a workshop to build, out of PET plastic bottles, a solar panel to heat water for domestic consumption. The construction involved cutting and assembling plastic bottles into a structure that allowed for water to heat up as it passed through the panel. Contrary to most plastics, because it is transparent to UV rays, PET can be used to warm water.



Figure 27 - The solar panel made of PET plastic bottles at Coopzumbi.

During fieldwork, I visited Coopzumbi. When I arrived, I saw one of the panels abandoned outside the cooperative (see image above). The process had been interrupted by political problems inside the cooperative and between the cooperative and the institutions that were providing support — curiously, *Aliança Empreendedora*, the same NGO that is now delivering the municipal project in Curitiba. The abandoned panel was an image that matched the general state of the cooperative. A process of exodus of its members and of increasing general entropy was underway. By the beginning my fieldwork, the NGO *Aliança Empreendedora* had ceased to support the cooperative. The *catadora* who had trained to provide administrative support after the departure of the NGO had been hired by one of the companies sponsoring the project (Walmart). The cooperative was facing difficult times. When I arrived at the cooperative they had just sold two of their bailing machines, which announced a process of the depletion of its assets.

The episode of the solar heater in Coopzumbi suggests that inventiveness needs to be matched by organisational knowledge. The creative potential of the materials cannot be realised without being involved in a human organisational dynamic. As Hawkins puts it:

“the economic capacities of plastic emerge in specific arrangements and processes, in which the material interacts with any number of other devices – human and non-human – to become valuable” (Hawkins 2013: 49)

The image of the abandoned panel encapsulates the rubbish-making effect of incomplete revaluation. It shows how particular forms of association between cooperatives of *catadores* and other organisations can both potentiate and make difficult the construction of new routes for material revaluation. But it also shows that it is possible to explore the open nature of the ways in which materials, and in this case PET, come to acquire value.

An example of inventiveness that benefitted a recyclers' cooperative can be found in the municipality of Diadema, in metropolitan São Paulo. One *catador* invented a machine out of recovered materials that spins plastic bottles against a blade, allowing the extraction of a string of pet into a yarn (also known as 'plarn' – plastic yarn). The yarns (one from each bottle) are then interlaced to form a washing line. The interlacing machine is built with broomsticks and other objects found in the waste stream. The washing lines can then be sold to consumers, converting ecological and social justice values into economic value for the cooperative. In this process, the shape of the bottle is not preserved — there is a process of deformation at play. It is also a process of downcycling since a food grade material is transformed into a lower grade one. On the other hand, polluting and energy consuming industrial processes of grinding, melting, and remoulding are avoided. Thus, the production cycle is completely controlled by *catadores*, with all the value it generates to be shared amongst them. Ecological and social values are created and preserved and put to work mutually. Finally, exchange-value is enhanced through symbolic processes that are similar to those used in the commercialisation of the Brazilian national football shirt mentioned above.

Materials as Public Devices

These examples make use of two important characteristics of the material that can be made to work in the interests of collective improvement. Granted, the affordances of materials can potentially reflect in public participation (Marres and Lezaun 2011; Hawkins 2011). Materials can express as matters of concern and can become political devices (Latour 2005a). But materials do not generate value on their own. They need to be part of associative arrangements deploying human will, ingenuity, and cooperation. What the examples of the solar panel and the washing line make clear is that something needs to happen at the level of social articulation in order for materials' potential to

“express” as political devices (Hawkins 2011). When that happens, *catadores* engage their particular skills and innovative potential with alternatives that unplug from recycling market circuits.

When *catadores* participate in the dominant recycling circuit, I have argued, they engage with two different systems of valuation, but overall they contribute to the reproduction of a consumptive mode of production, which exploits their labour. Through a different engagement with materials, which makes use of *catadores*' particular position in between systems of valuation, that uni-directionality may begin to be shifted. This depends on two sets of conditions at the socio-political level. One has to do with the ways *catadores* conceive of their position within wider social structures and the ways in which they imagine overcoming their position. The other refers to the engagement with other organisations that provide examples of effective counter-cycling, which can be used by *catadores* as template for their own projects. The next two sections will discuss these two points.

Short-circuits: Catadores' Sense of Social Positioning and Ways to Improve it.

In the popular imaginary, as in much of the literature on urban 'scavengers', waste-picking is seen as a manifestation of total deprivation and a condition that undermines basic human dignity. In such discourses, emancipation depends on overcoming the need to pick through waste and finding opportunities for more acceptable forms of work. Or they may involve the organisation of waste-pickers' labour power under the administration of formal systems of municipal recycling. Contrary to this vision, I argued in chapter three that *catador* is an established occupation included in life projects. Many *catadores* imagine a more ambitious future in which they will still be *catadores*.

In the subsequent chapters we saw how some believe that entrepreneurial skills, hard work, and making the most of various opportunities may lead them to build up their income. We also saw how the volatility of the markets and the vulnerability of their precarious conditions ultimately undermine their chances, impelling them to repeated new starts. In this scenario, the occupation of *catador* stubbornly persists, conquering space in personal projects, in social recognition, and in public policy. So how do *catadores* imagine their position and possibilities of social mobility within the recycling system?

Global Short-circuits: Depth, Liquidity and Aspiration

Catadores' precarious situation makes them more vulnerable to the volatility of the recycling markets. They are the weakest links of circuits in which other agents also express their perplexity before the whimsical variations of the markets. As recycling markets become more tuned in with other global markets they become targets for external interests as well as integral parts of mobility routes for workers in different areas. They carry general perceptions of the markets with them.

For example, one day I visited a large buyer of scrap metals in the company of two members of the association *Vida Nova*, who were transporting a load of aluminium cans and other bits of metal. When we arrived, Adriana B, an executively dressed woman, whose make-up, high heels, glossy hair, and shiny skin strongly contrasted with the dusty, rusty, and completely masculine environment, showed me around. She told me:

“I’ve been working here for eleven months. I come from the business of cosmetics, so to change to an area of reverse logistics is a big difference. But it is a very interesting idea. It is a very cool market, but also very unfaithful. You don’t have fidelity from suppliers and furthermore value is prevalent.” [Adriana B 2010]

I was surprised to see a woman presented as Adriana was, walking around a scrap yard amongst piles of metal tubes, taps, rods, and shavings, interacting with men covered in grease, who unloaded rusty piles from the backs of trucks, compressed thousands of aluminium cans into small cubes, carried bags in, or sorted many different types of metal. My initial confusion gave way to the understanding of how Adriana B epitomized an extreme case of a movement of detachment and disentanglement (Callon, Méadel and Rabeharisoa 2002; Slater 2002; Adkins 2005) that characterizes market networks. The movement of workers from one area of activity to another, carrying “transferrable” skills and general perceptions on the market and production, are a sign and vehicle of integration in a wider network. Adriana B’s words revealed how scrap metal and cosmetics become similar as particular cases of commodities, which can be disentangled and reattached through the work of professionals who sway between embedding and disembedding in particular market networks.

This example also illustrates the particularities of the waste trade. Similarly to Adriana B, other operators in the recycling circuits expressed their concerns before the instability of the market. I recall, ‘uncle’ Cid (the plastics middleman presented in the previous

chapter) talking about the difficulty with seasonal variations and their correlation with prices of virgin materials (cf. chapter five). Likewise, Sérgio, the owner of the plastics recycling factory, who was mentioned in the previous chapter, also complained about the instability of markets as well as about the uncertainty of the supply of materials. But for all the sense of shared concern that these discourses may suggest, the extreme volatility of waste materials' markets affects different players in different ways. The fact that middlemen and industry operators manage to hold their positions, or that executive professionals may move between different businesses, confers relative advantage in relation to *catadores*' precarious conditions and limits to economic progress.

When *catadores* reveal perplexity about price fluctuation, their accounts have a more dramatic tone. Joel, for example, whom I met and interviewed on a side street of a peripheral borough of Curitiba, told me: "Before people started talking about the world crisis, the prices were much higher than they are today". Then there was a huge drop and only now are they finally recovering. Now, he says, "I always fear when the price of some material is high, that it might be about to plunge again" (cf. chapter three). Tiago, whom I mentioned in the opening story of chapter three provided a very onomatopoeic account of price fluctuations: "I nearly had the money to buy a van when... *poom*... the price falls! I was getting 40 cents for cardboard and suddenly *poom*, it plummeted to 5."

Furthermore, the social context of most *catadores* brings an added set of drawbacks for projects of economic accumulation. As Lia, who earns more than most *catadores*, told me: "Every time I manage to save a bit of money to maybe think about getting a house, something happens that forces me to withdraw it from the bank". With children in occasional work, grandchildren in school, older relatives in care, family members with problems with drugs and with the police, and all sorts of other possible sources of financial trouble, her life is at the mercy of different uncontrollable events. Yet, she

keeps working with her biggest dream in mind – buying a house that will get her out of the violent *favela* where she was born and has lived for 37 years. The precarious context exacerbates the vulnerable position of *catadores* in the urban economy.

This feeling of powerlessness in the face of the fluctuations of a wider network, which one feeds, resonates with Bruegger and Knorr-Cetina's account of a completely different setting: trading rooms in world financial centres of the global North (Knorr-Cetina and Bruegger 2002). According to these ethnographers, traders perceive the market as a “deep and liquid object”, a “greater being” with which they interact on a daily basis without ever managing to understand or control (ibid). Waste-pickers also see the markets as a monstrous being, which they feed but that is inconsistent and out of reach. However, they are often adamant of the possibility of circumventing the network that excludes them.

One of the perceived ways to avoid the oppression of markets is articulated through the dream of establishing direct links to Europe. This also reveals the identification of Europe as the space where the sources of power over these markets must be located.

I call these potential movements ‘short-circuiting’, because they express the notion that there are more advantageous positions in the circuit that one can access.

For example, *catadora* Lia asked me several times about waste in European cities and shared the dream of emigrating to become an informal collector in Portugal or England. She envisaged much profit could be made in those locations. “And are there *catadores* there?”, she asked. I informed her, much to her surprise, that her occupation, which is officially recognized by the Brazilian bureaucracy, is considered illegal in other countries. In fact, in most countries of Europe, the municipality not only has the duty to deal with, but also owns the rights to, the recyclable waste disposed by residents. But Lia would still insist in daydreaming about the opportunities opened by places where lots of

valuable waste is produced and where there are no waste-pickers to appropriate it. In her mind she would be tapping into a distant resource leaving all her contextual factors constant.

Likewise, two middlemen with whom I spoke on different occasions, revealed their wish to establish businesses of recyclable waste imported from Europe. I was given several proposals to engage with export-import businesses of recycling materials, once I got back to Europe. Again, the idea is that you can access one point of the global circuit and sell the material at the other. In many ways, global short-circuiting can be seen as stretching the aspiration to engage individually with the market in a more advantageous position.

Regardless of the place we consider, *catadores* tend to become waste themselves; they are either the weakest link or they are easily made redundant. In different parts of the world, the implementation of a model of recycling that follows the global dominant model means displacing waste-pickers or ‘recycling’ them into a mechanical portion of the production system (Wilson 2009, Medina 2007). Therefore, it is no wonder that their impulse is to save themselves and scrounge for opportunities for bettering their individual and familiar conditions. Following on from their initial drive to embrace recycling as way to lift their selves out of poverty or simply to survive, the system repeatedly succeeds in offering the vision of better positions and thus avoids being challenged or changed.

Collective Short-Circuiting

Catadores may also imagine ways of collective improvement of their situation within the recycling circuits. Chapters four and five showed how cooperative work allows that improvement and the types of exchange that it makes possible. The next step in these collective short-circuiting movements is the organisation of labour cooperatives into

networks of transformation and commercialisation of materials. Again here, PET is the material that was chosen for the first two projects that were devised in Curitiba. As chapter four mentioned, these projects concern the production of PET flake, which can be sold at a much higher price than the sorted bottles. In order for the operation to be economically viable it needs an input of 300 kgs of plastic bottles per hour, which the member associations and cooperatives commit to generate. The projects have had advances and setbacks and are the focus of political contentions, of which the next chapter will provide an account. What is crucial to the argument presented in this chapter is that these projects promise ways of moving *catadores* within the recycling circuits, or as I am calling it here, short-circuiting.

Yet there are also opportunities for more ambitious change to happen within waste revaluation. It is possible to exploit the fact that *catadores* also occupy a vantage point to make change and innovation possible. If *catadores* find ways of promoting and embracing collective processes, of countering the traps posed by recycling, they may start to develop countercycling in more efficacious ways. The aim of countercycling is to build circuits of value that allow *catadores* to escape dependency from a deep and liquid circuit that entraps them.

Fieldwork revealed that this is an underexplored area. However, if I struggled to find accomplished systematic projects in Curitiba, where materials and objects were consistently diverted from the mainstream recycling circuits, I found much evidence of an open field for that to happen. Firstly, there were many occasions in which particular loose ends — such as my encounter with the PET artist presented above, or Lia's encounter with objects handcrafted out of tetrapak containers in chapter two — seem to be up for grabs for *catadores'* organisations to pursue. Additionally, examples from other organisations provide usable templates for *catadores*. In many ways waste-pickers in

Curitiba are in a privileged position to promote processes of unplugging materials from wasteful circuits. This may simply require an increased consciousness of the possibilities of collective improvement, change, and learning from existing practices, as well as the procurement of support from other institutions towards the collective values of such initiatives. The following section will present several of those examples, discussing the notions of unplugging and shortcircuiting as useful to a process of learning to imagine the possibilities of such change.

On the Possibility of Unplugging and Countercycling

In the beginning of the book *Tools of Conviviality*, Illich (1973) reflects on what he thought was the epilogue of the industrial age, calling it an “epoch of *packaging* and schooling.”

Illich was referring in particular to ‘packaged’ values in knowledge systems, mainly formal education and medical practice. Forty years later, the notion of an era formatted by packaging and exchangeable ideological pre-constructs can be applied to the productive system itself with particular accuracy. For one thing, this idea is confirmed by the amount of containers involved in industrial production, distribution, and consumption — a great part of which ends up in landfills, incinerators, and recycling networks. In a less literal sense, Illich’s formulation also resonates in the efforts to *contain* the messiness of recycling networks from the image of fluidity, organisation, and calculability of ‘pure’ market circuits. The efforts to manage the over-production of urban waste have assumed a “packaged” form, which is disseminated globally: ‘the dominant model of recycling’, as I have been calling it.

Learning and knowledge are entwined in processes of material transformation to which we came to refer as production. Curitiba, a city of the Global South, became, in the 1990s, a global model of urban development. Seen from within, the city shows the contradictions, and even negations, of its external image that circulates globally in a ‘packaged’ form. Seen under the perspectives of the different ways of “learning the city” (Macfarlane 2011) and the potentialities of materials, urban waste becomes a political device *par excellence*.

MacFarlane looks at learning as a peculiar process in cities. His “geographies of learning” are in this sense a formulation that resonates with the idea of epistemologies of the South (Sousa Santos 2010) discussed in chapter one. In this case, the South is not just the southern hemisphere, but also the lower circuits of the urban economy that reproduce global divisions (Sousa Santos 2010; Santos 1978). Yet, cities, because they

bring together different people and materials in ever-transforming assemblages of natural, material, and human parts (cf. concept of the “cyborg city” (Gandy 2003), are particularly suited to reshuffle the dominant circuits in order to seek what Boventura Sousa Santos calls “global cognitive justice”. The waste of cities and its revaluation, I argue, offer particularly rich possibilities for a kind of urban change that contributes to “an ecology of knowledges” (Sousa Santos 2010).

As Thompson states, the passage of objects to rubbish status reconfigures the systems of knowledge under which they are classified in function of “structures of control over time and space” (1978:52). In this sense, paying attention to what is wasted by certain sectors of the city is also a way of conducting a “sociology of absences” (Sousa Santos 2010), which is concerned with what we can learn from what dominant epistemologies devalue. According to Thompson’s Rubbish Theory, it is exactly the fact that rubbish is a “covert category” that hides it from “control mechanisms” (Thompson 1979: 9), thus allowing it to find different paths to revaluation. Those “regions of flexibility” oppose the “regions of fixed assumptions” in which commodities come into being, to use once again Thompson’s distinction between commodity and rubbish. The capacity that a sociology of rubbish has to unveil those “back regions” (Goffman 1959) opens a world of epistemological possibilities.

The argument is still valid when we invert Thompson’s or Appadurai’s perspectives. For Appadurai (1986), things are moving in and out of commodity stages throughout their “social lives”, always carrying the potential to be realised as commodities. For Thompson (1979), objects transfer between “transient”, “rubbish” and “durable” status. The last stage is the most valuable one. Martin O’Brien inverts this view. In his sociological analysis of the ‘rubbish society’, O’Brien considers it “a society whose means of permanently disposing of or removing waste creates its own opposite: the

appearance of a temporary value in industrial commodities” (O’Brien 1999, 270). As we saw in the beginning of this chapter, the single-use plastic bottles are the extreme expression of this perspective — commodities “made to be wasted” (Hawkins 2013). The political economy of recycling is thus the passage of an object not through a productive process again but through a process of wastage again: the return of the object to its concealed status (O’Brien 1999: 270 – cf Chapter one of this thesis). As Hawkins puts it, in relation to PET water bottles, “the anticipated future of the bottle as rubbish is implicitly folded” into production and consumption, and not temporally or spatially separated from them (Hawkins 2013: 62) Whether one thinks, with Appadurai, that all objects are potential commodities, or, on the other hand, with O’Brien, that any commodity, or even any durable object, is just the result of a temporary concealment of its potential rubbish status, one can retain the point being made here. The rubbish status, the devaluation of materials, objects, and people displace them to “back regions” (Goffman 1959) or “flexible arenas” (Thompson 1979), where assumptions are suspended and mainstream values are reshuffled. Therefore, new possibilities can be imagined. The types of knowledge necessary to inhabit the city and the ones needed to reconfigure our relation with waste demand similar attitudes of openness to new forms of association between people and with materials.

Unplugging from the Grid

Coming back to the discussion started at the beginning of this section, Illich discusses proposals and examples of unplugging from the grid, circumventing networks, and finding “convivial” forms to generate collective value (Illich 1973) as ways to overcome the epoch of packaging in schooling and production. In relation to recycling, it seems that short-circuiting does not do more than feed into the same networks at different

points. This movement has limited potential to generate the kind of social change capable of disrupting the vicious cycles of exploitation and entrapment discussed above. Through fieldwork I came across several examples of projects that proposed revaluating materials and objects through routes that didn't necessarily lead to re-introducing the materials into industrial cycles of production. These can be seen either as models for *catadores* organisations to follow, or as possible points of engagement for associations of *catadores*. The story of the artist's educational project presented in the beginning of this chapter could be seen as a loose end with which *catadores* could potentially engage. There are others.

The rest of this section presents some examples of 'unplugging' movements, which may generate more effective circuits of value for *catadores*. I start by providing two examples promoted by the municipality, to which I have alluded in the introduction to this thesis.

Municipal Countercycling

In the early nineteen nineties, the municipality of Curitiba complemented the introduction of a citywide recycling system with creative schemes that proposed alternatives to existing market models. Two examples of such policies still remain at work today, albeit displaced from the forefront of the city's environmental self-promotion. The first one is the Museum of Rubbish, which displays objects salvaged from the waste collection and recycling process; the other one is the Green Exchange in which food is bartered for recyclables.

Museum of Rubbish

Containing more than 7000 objects salvaged over the years by the operators of the Municipal Recycling Facility the Museum of Rubbish is the main attraction for the 1500 to 2000 monthly visitors to Curitiba's MRF, on whose premises it is located. The

majority of visitors come from schools, whose students often use the museum objects, especially its books, as research material for their coursework. I visited the museum twice.

The first impression to the visitor is not of a museum as one expects it to be. It is not a place where objects are catalogued, ordered, or contextualised. On the contrary, objects seem to be piled up; they seem to be waiting to become something else. They are not sitting comfortably. It is as if they are conscious of the precariousness of their salvation from irremediable destruction. And yet, contrary to the materials circulating through the main space next door, being unloaded in heaps, dropped over conveyor belts, sorted, binned, classified, smashed, packed, and transported to smelting or shredding, they are motionless. They have been unplugged from the main cycle of creative destruction that only acknowledges things for the market value of their constitutive materials, as if their constitution was more important than that which can be laid out on a periodic table of recycling.

One of the most fascinating sections of the museum is the box and display of Brazilian notes and coins that were thrown away. In the museum they regain symbolic value, no longer as market currency, but as archaeological artefacts. From 1942 to 1994 Brazil changed its currency 8 times. In the museum these paper and metal objects find their third stage of life after being, successively, a token for market exchange, rubbish, and now a museum piece. Without value in the system of circulation that attributes symbolic value to pieces of paper and metal, these notes and coins are re-enchanted through recombination with other objects in a different spatial and temporal context.

The Museum of Rubbish, like other forms escaping the lines that enclose productive circuits and value, provides us with the possibility to rethink market networks not as the one-best, most-efficient way to coordinate “reverse logistic”, but as a particular cycle of wastage that delimitates spheres and stages of value, concealing social and material relations, one from which it is possible to unplug. In the Museum of Rubbish, objects are valued for their stillness, for their position and narrative context. Thus the museum is countercycling — resisting recycling’s imposition of movement, speed, and circulation as the only sources of value.

The possibilities for *catadores* to adopt similar projects or even to connect with this one, by providing knowledge and objects for municipal educational projects, are evident. Furthermore, the spatiality and temporality of museums could provide one possible antidote to the absence of *catadores* in the city's memory. Their absence in this particular museum is a conspicuous example of this problem. What follows presents another municipal project, one which can generate valuable knowledge for *catadores*. This project has instituted a peculiar exchange that hooks up two streams of valuable waste.

The 'Green Exchange'

Since 1992, Curitiba's Local Authority has instituted a system whereby surplus from crops is collected in the periphery and taken periodically to deprived neighbourhoods that are difficult access in order to be exchanged with recyclable materials. I observed the moment of exchange in one of the city's *favelas*. Many local people queued, with supermarket trolleys and different kinds of bags and containers, by two trucks parked on opposite sides of the road. Each of these trucks was equipped with a scale. In the first one they would hand in the recyclables, weigh them, and get a paper coupon. In the other they would exchange the piece of paper for bananas, potatoes, and other vegetables and fruits. For each 4 kg of waste they would get 1 kg of food. The queues contained people from the *favela*, who gathered their own recyclable waste, but they were mainly composed of people who collected recyclables in other parts of the city. Some of them were actually professional *catadores* who used the scheme to get something out of the materials that do not have easily accessible markets, such as glass.

The recyclable materials collected by the Green exchange are delivered to the municipal recycling facility and enter the strict upper circuit of official recycling. So although the Green Exchange does not represent the creation of a new circuit of material recycling, it creates new circuits of value by connecting two different streams of waste — from

agriculture and from domestic consumption. Yet *catadores*, who in many ways embody this possibility of bridging two systems of value, as we have been seeing throughout this thesis only relate to this project as consumers. And once again their participation is invisible, as they are counted as 'lay' - household residents who are served by the municipal service.

Opportunities for Catadores

Waste's potential value as raw materials for handcrafting has been increasingly explored. With regards to these possibilities, in *catadores*' cooperatives there is undeveloped talent and networking possibilities. Let me present two examples of those in Curitiba. Once, when accompanying Lia through her collection day, we visited an NGO that provides support to women on the street, mainly prostitutes, and it collects donations of unwanted goods and materials. We were shown impressive objects and sculptures made out of tetra-pack plastic from used cartons that were made by some of the women. Lia invited the lead artist to give a workshop to the members of her cooperative. A new possibility for unplugging materials from the cycle of creative destruction was then opened. Whether and how the cooperative deploys adequate "tools of conviviality" (Illich 1973) into the development of this project, will determine if the unplugging movement can generate relevant countercycling effects.

A second example comes from cooperative settings. Some associations set up weekly markets in which they sell objects found in the waste stream. The possibilities for such schemes depend on them being located in a residential area and with access to donations specifically destined to increase the value of these sales. Again, the engagement with other organisations determines the success of these markets. Coopizumbi, located in the vicinity of the luxury residential compound Alphaville, managed to establish relationships with its wealthy residents and with Walmart, Coca-Cola, and other

companies; these connections provided valuable donations that could enrich alternative markets, and the cooperative space itself, as much as the regular stream of recyclables.



Figure 28 Frog-shaped objects by skip at Association Vida Nova.

Even when an association has not set up a market for the things that are found in the waste stream, *catadores* separating waste streams always spend some of their working day collecting objects to take home, or passing them amongst themselves to see if it can be of use to anyone. In every association or cooperative that I visited, there was often someone at a work table grappling with an object, passing it around to be classified, evaluated, eventually disposed of, put in a specific bin, or simply set aside. There would always be objects set aside: a dress, a wheel, a doll, an identified material assemblage, either next to the worker waiting for the end of the day or in the cooperative's common space waiting for someone to take it away (Figure 28 and Figure 29).



Figure 29 A dress laid at the edge of a rubbish container at Association Vida Nova.

These examples suggest a space of possibilities and potential contained in waste, ready to free the people who work with it from the restraints of contained and concealed networks of production. Because these possibilities allow increasing control over the work product, they offer the possibility to attain a situation more advantageous than the mere movement inside the market network. *Catadores* operate in a social space crossed by opportunities to rethink materials, to confront and rearticulate systems of values, and to propose re-classifications. This is, I argue, the *catadores* most valuable asset.

Conclusion: Countercycling and the Engagement with Other Organisations

The urban economies of recycling that are historically organised around informal waste-pickers have different outcomes, which ‘rational’ evaluations of urban systems of provision tend to deem archaic. They are, in Boaventura Sousa Santos’ formulation, made subaltern, and pushed to the ‘South’ side of the ‘abyssal way of thinking’ (Sousa Santos 2010). It is thus necessary an “ecology of knowledges”, a project of cognitive justice that incorporates different forms of practice and understanding. Waste-pickers are in a crucial position to engage with such project.

In relation to the mode of production, *catadores* are, like some of the materials and objects with which they deal, “boundary objects” (Star 2010) in that they defy classification and can do different things in different systems of categories. We have seen this in the ways social theories have struggled to ascribe a fixed position to them. I argue here that they can use this particular position to push against the unidirectionality of the dominant recycling model, which wastes materials and people, through limited forms of evaluation. Countercycling is the word I chose to name those alternatives to the circular inertia of industrial recycling.

This chapter started by focusing on the very material qualities of waste to show how, from the design of materials and objects, particular forms of use and disposability obscure alternatives and increase waste. PET plastic was presented as an example of how the very history of the materials’ affordances may serve as model to opening up possibilities of revaluation. Then I focused on *catadores* to understand how they imagine their position in and how they can unplug from a system of production that devalues them, without abandoning their occupation. Finally, the chapter presented a series of possible models of revaluation of materials that make possible unplugging from those cycles. I argued that for them to be effective they must not only provide an engagement

of aspiration in collective settings, but also an engagement with other organisations with different agendas.

The constant need of *catadores* to engage with other organisations generates friction and conflict between political agendas. This leads our attention to the political sphere.

Negotiating support and lobbying state powers have been crucial to the advancement of *catadores* in the bureaucratic formation of Brazil, as well as in the design of policies at local, State, and federal levels. The last substantive chapter, to follow, outlines the political-ideological debates surrounding the institutions that vie to support *catadores*, and sketches the achievements of the last decade in terms of law and policy change. It will focus on the way *catadores* in Curitiba relate to those conflicts and either stand their ground, gain space, or play along with a conflictive and ever changing political context.

Chapter Seven. Rights to Waste: Re-Politicizing Urban Recycling



Figure 30 Waldomiro Ferreira, by the entrance of the cooperative CATAMARE of which he is the president, with detail of his hat where it reads: "STRUGGLING: For the Preservation of Nature; Against the Privatisation of Waste."

Introduction

This chapter concerns the politics of urban waste in Curitiba. From the outset, this thesis has been concerned in different ways with the political economy of waste and recycling. We have discussed: politics of visibility – in the ways official discourses impose the invisibility of *catadores*' work; politics of temporality – in the ways that *catadores*' control over the labour process resists industrial temporal regimes; and politics of value – in the construction of alternative circuits of value creation and exchange. In this chapter, we are dealing with political action in more explicit terms.

This thesis can be divided in two parts. Firstly, chapters three (Occupation: *Catador*), four (Socialising Waste) and five (Material Markets) are concerned with 'what is' and 'how things came to be'. From chapter six ("Countercycling"), we are looking at 'what may become' and 'what is emerging'. In order to do so we have problematised the role of waste-pickers in the existing models of urban recycling. We must also look at recycling as an arena of critique and political action rather than as incontestable utopia.

According to MacBride (2012), the dominant configurations of municipal recycling are associated with two phenomena: "busy-ness" and "unpolitics". "Busy-ness" refers to the notion that 'more' and 'quicker' is necessarily better. From this perspective, more movement and more circulation of the waste materials is necessarily positive, regardless of:

- Energy balance,
- Particularities of materials,
- Waste resulting from the recycling process itself,
- Quantity of municipal waste as a proportion of the total waste of industrial production and

- Specificities of the labour process.

One of the consequences of this “busy-ness” is that everyone is made to be routinely busy sorting waste materials in a particular way, without enquiring about the business model to which they are contributing. Thus, “busy-ness” is strongly connected with “unpolitics”. The latter term was firstly used by Crenson (1971), in relation to air pollution, and later by Beamish (2002), to understand the reasons that sustained a 38 year-long oil spillage in the Guadalupe dunes. MacBride (2012) applies the concept to the politics of urban recycling. Here, the concept refers to how waste is managed from a pseudo-technical perspective, under the imposition of consensual environmental-moral values. As MacBride explains: “If busy-ness is at the overactive end of an axis of ways to underaddress a problem, unpolitics is at the other” (2012:11-12). Like MacBride and others (e.g. Gandy 1994; Pellow et al 2000; Gille 2007), I take the view that one must re-politicise our analyses of waste and recycling.

The plight of waste-pickers in the urban South, especially in Brazil, brings political dimensions to the forefront of urban recycling. In Curitiba, the camps that confront political perspectives with regards to *catadores*’ struggles for organisation and recognition are particularly crucial to understanding the hidden politics of waste and recycling. This chapter will make this point clear.

Recycling in Curitiba’s official discourse obeys to a “narrowly considered framework of global efficacy and appeal”, which is characteristic of some imagined models of urban development in the Global South (Simone 2010: 62). *Catadores* have disrupted this image and have thus become the focus of political dispute. Thus in Curitiba, many different agencies with conflicting political agendas claim to advocate the *catadores*’ cause and vie to exercise some form of control over their work and organisation. At the forefront of these political disputes are the local authority, on the one side, and the state public

prosecutors concerned with environmental and labour issues, on the other. This final substantial chapter focuses on the politics of those agencies and on how *catadores* negotiate their place in these moving structures of support. Thus we can unpack the institutional and legal field in which *catadores* strive to organise and consubstantiate collective social progress within the city.

The Importance of Politics for Catadores

“Urbanization, at its very core, concerns the multiplication of relationships that can exist among people and things and the way in which value can be created by enhancing the circulation of people, ideas, materials, and practices and by using things that exist in more than one way.” (Simone 2010:5)

Simone’s notion of urbanisation reverberates in many ways Max Weber’s analyses of the city as the place where feudal bonds were broken and freedom to become something else became possible. Subsequent debates in urban sociology dwelled on the impact of Fordist industrialisation in the notion of the city as space for increasing freedom to become. Harvey’s and Lefebvre’s notion of Right to the City follow that route (Lefebvre 1996 [1968]; Harvey 2008). Post-Fordist and post-modern urban analyses revealed new forces of controlling social change through urbanism, technologies of surveillance, mass and cultural consumption (Featherstone 2007), and perpetual change itself (Jameson 1998). Up to the present, urban sociology has revealed the city as a patchwork, an assembly of parts that resist being fully integrated in a linear narrative, as notions such as “city of quarters” (Bell and Jayne 2004), “splintering urbanism” (Graham and Marvin 2002), “spectral analysis” (Lefebvre 1999:142-3) convincingly showed. The city as an assemblage of different structures of power and knowledge (MacFarlane 2011) provokes our analytical gaze to turn to the spaces in between, which somehow bring back the city’s original promise of freedom (Sundaram 2010; Simone 2010).

Searching for opportunities in the interstices of various systems of order and classification, many residents of the urban South attain at least the capacity to work, survive, dream and aspire. Waste-pickers are a radical version of urban dwellers, for they find value in various ways of circulating and relating to things and people. Yet, as we have seen, enclosed circuits of value production and exchange constantly curtail the

freedom *catadores* attain. This enclosure keeps waste-pickers at the margins of the circuits they weave – both away from its material rewards and from the ability to shape it.

Catadores politics is predominantly concerned with finding the ways to overcome those obstacles so as to attain better economic and social positions in the material circuits that they feed. One way to do this is by devising strategies that build on the very fluidity that characterises their particular urban experience. The point is that, like urban waste, *catadores* occupy a “flexible region” (Thompson 1979), in which they can reconstruct themselves as “subjects of value” (Skeggs 2004) and politics. This flexibility is revealed at least in four different instances:

- 1) through the plethora of theoretical approaches that urban “scavengers” have inspired. As we have seen, they have been conceptualised by anthropologists both as peasant hunter-gatherers (Sicular 1992) and proletarians (Birkbek 1978). Furthermore, as informal workers they are identified with petit capitalists, entrepreneurs or the underclass (Bayat 2004: 83).

- 2) through the discrepancy of social evaluations that they provoke in the urban public. During fieldwork in Curitiba, I heard *catadores* being appreciated as environmental agents, who work hard to survive honestly, as much as I heard them being called people who “don’t want a proper job”, mentioned as a sign of underdevelopment or pointed out as a sort of human pollution circulating through the city.

- 3) by the fact that *catadores*’ work takes place in the uncharted economic space after consumption and before production.

- 4) *catadores*’ activity takes place in between two incongruent systems of valuation, as I have been trying to show in this thesis: on the one side, there is the collection/donation of waste materials, in which exchanges are promoted by environmental and social judgements and on the other, the sale of sorted recyclable materials, in which the

hegemony of industrial value is expressed through prices in the recycling market. I have contended in this thesis that this “liminality” in which *catadores* operate, and which is also a predominant characteristic of waste (Gille 2007), offers some degree of power, freedom and potential to construct “alternative circuits of value” (Skeggs 2011).

In many ways, the relevance of a sort of “self-built” or insurgent participation in the construction of the city has been suggested by authors like James Holston (2009), AbdouMaliq Simone (2004), and Ravi Sundaram (2011). Yet, with so much of the onus of finding sources of livelihood in the informal spaces of the city put on the urban poor themselves and thus making the city work through processes of self-construction and reconstruction, is it possible to concentrate all the expectations of urban change on them? Would this not mean transferring the tantalising hope of self-realisation from the waste-pickers to the city itself, without addressing the socio-political context in which *catadores*’ lives are set? As we have seen, this is a fluid social space, which is filled with broken promises and alluring horizons, invariably guarded by insurmountable pitfalls.

Throughout the previous chapters I have told some of those stories of continuous shattering and renewal of hope and aspiration. Isolation and vulnerability make political action simultaneously more difficult and more necessary. Granted, a kind of social and urban fabric is weaved without the need for overarching strategic interventions.

Successively, the work of hundreds of thousands of urban poor has established an activity that is still treated as informal even if it is recognised by the law. They are migrants from rural areas, who arrived in the city and found the possibility of livelihood in mining the “urban ore”. They are also children of the inner city, some of them second-generation waste-pickers, some going out days and nights to collect recyclables with their own young children. Almost all of them are informal dwellers with no bureaucratic existence. It is true that *catadores* in many ways make the best of the

opportunities for survival and aspiration opened by the apparent elasticity of the urban fabric and pliability of systems of value. But in fact they only manage to make space in holes, crevices, tears, and somewhat rigid spaces between systems of value. Thus we can say that the setting in which people are drawn into waste-picking encourages constant movement, individual or familial isolation, and variable tactic arrangements. Thus waste-picking seems to discourage organisation and class-consciousness. Simultaneously, albeit contradictorily, it begs for collective strategic action to promote a positive change in the conditions of the activity as a whole.

If strategies that build on fluidity and flexibility are one way to open spaces of opportunities for urban poor, the capacity of an occupation like waste-picker to provide real possibilities of personal and collective realisation depends on more solid strategies of political action. *Catadores* find a space in the city by building on the flexibility and availability of urban rubbish and on the fluidity of informality. But they also need a formal politics of citizenship and claims over rights to labour and material streams. Many waste-pickers do just that. They endeavour to organise collectively in order to lobby political agencies and the general public. They do it in interplay with external agencies, which mobilise different political interests. The political struggles of *catadores* in contention with different worldviews have materialised in formal changes in the state

Two central questions underlie this discussion:

1) How can *catadores* be defined as (collective) political subjects? This question is framed by the focus of this thesis – about the possibilities of building alternative circuits for the revaluation of waste.

2) Who defines *catadores* as political subjects? What different institutional agents and what political agendas intervene in the political landscape in which *catadores* operate?

These questions include researchers and consequently, this very thesis: Am I investing

catadores with a personal agenda or am I being faithful to their own practices and discourses?

Let us then discuss the different political agendas of people and organisations that work with waste-pickers in Curitiba – starting with my own.

The meanings of ‘political’

There are four main notions of political action that I am mobilising in this text:

- 1) Institutional: as the kind of social action that refers to negotiations with the state.
- 2) Sociological: referring to social action that is motivated by the sociological imagination (Mills 1959), i.e., by the conscience of the effects of particular actions in the public domain, and vice-versa.
- 3) Related to social movements: when one associates with others to develop a collective strategy to promote a cause in the public sphere.
- 4) Promoting social change: acting over reality, bearing in mind not only what it is but also for what it can become, and how one can contend and with whom in order to shape the future.

Political action is then, in the sense intended here, social action that can be integrated in at least one of these four definitions corresponding in simplified terms to: the state (1), society (2), collective strategy (3) and social change (4).

To be sure, there are other definitions of ‘political’ that could point to different criteria. For example, there are political perspectives that confront or neglect the centrality of the state (e.g. anarchism, occupy movement), or that procure conservation rather than change (some kinds of ‘un-social’ conservationist environmentalism), or that promote the individual (consumer, voter) rather than collective action. For this reason I am clarifying my stance on the definition of politics through these four points. Furthermore,

the state takes central space in this discussion. As it will become clear further down, the institutional actors that interact with *catadores* in Curitiba are directly or indirectly representing the state; even if *catadores* always associate with *non-governmental* organisations. This explains why the institutional definition of political action takes primacy here.

The Political Actors

We can divide the actors of this narrative into two groups. On the one side, there are the *catadores*. On the other, the people and agencies that work with them. *Catadores* can loosely be divided into ‘organised’ and ‘unorganised’ categories (depending on whether they are inside or outside of cooperative settings). Among the members of cooperatives and associations there are those who are more engaged with the labour movement – the National Movement of *Catadores*. In turn, within the agencies that work with *catadores*, claiming in different ways to be their advocates, I distinguish three main groups: 1) the municipality, along with the NGO Entrepreneurial Alliance, which delivers the municipal project *eco-cidadã*, 2) the State Public Ministry, through the Waste and Citizenship Institute and 3) the researchers who produce written texts on, and audiovisual accounts of *catadores*.

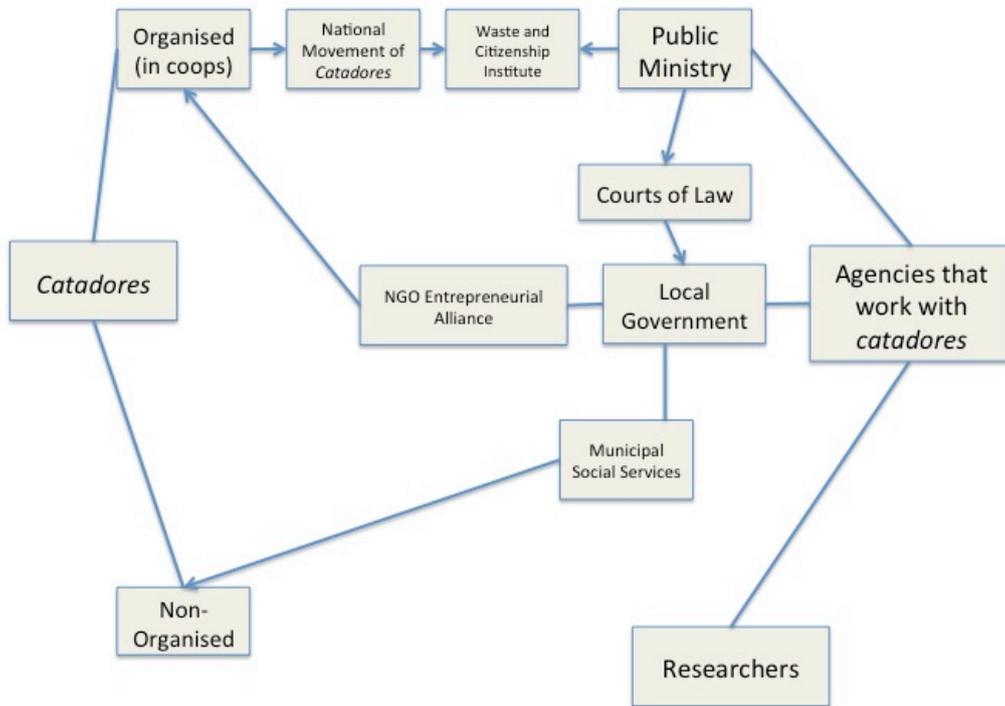


Figure 31 the political agents (arrows represent direct interaction).

The remainder of this chapter focuses on the political stakes of the people who work with *catadores*. In the last part of this chapter we will return to the voices of *catadores* on this matter. Let us next start with the Public Ministry, which allows us to become more familiar with the unique way in which the Brazilian laws relate to waste-pickers.

Politics through the Law

The attorneys in the Public Ministry of Paraná go far beyond the strict application of the law, when it comes to promoting *catadores*' rights. To begin with, they endeavour to create law by advising the state on legislation and pushing for the production of jurisprudence. More crucially, the Public Ministry of the State of Parana, especially through their environmental and labour sections, intervenes directly on the organisation of *catadores*, promoting their labour cooperation and labour movement. They do it in a legislative context that is unique in the way it acknowledges and promotes waste-pickers and their cooperatives (although in some areas it creates obstacles for the institution of legal cooperatives, as we saw in chapter four – Socialising Waste). Let us start by presenting the legal context and the main juridical battlegrounds, and then move on to the more orthodox and the more peculiar forms of involvement of the state public prosecutors in the plight of *catadores*.

Throughout the last decade, several pieces of federal legislation have profoundly changed the relationship of Brazilian urban waste-pickers with the state. Despite the fact that they are in many instances still referred to as 'informal recyclers' or 'informal collectors', '*catador*' is an occupation recognized by the Brazilian state since 2002. The Brazilian List of Occupations (an official document sanctioned by the federal minister of work and employment) includes "*catador de materiais recicláveis*" ("picker of recyclable materials") followed by a one-paragraph description. This has made possible several pieces of legislation that constitute an edifice offering support to *catadores*. This is true especially for the small but in many ways leading minority of *catadores*, who is organized in cooperatives and associations. This process culminated in the promulgation of the National Policy of Solid Waste in August 2010 and its subsequent regulating directives in December of the same year. The latter was one of the last decrees signed by president Lula da Silva before handing over the presidency to Dilma Rousseff. It contains a large

set of legal instruments that benefit *catadores*, in particular by attributing valuable resources to cooperatives.

Honorato Saint-Clair, chief attorney for environmental issues in the State of Parana summarises:

“Brazilian law is building an equilibrium, which public powers seem incapable of achieving, contributing to redeem the social dignity of this people... It is not simply: ‘I want your rubbish because it has economic value’. No. It is ‘I want your rubbish because it is going to have a social benefit’” [May 13th 2010]

Why is State environmental attorney Saint-Clair mentioning, “I want your rubbish” in his explanation of the law and its spirit? Who are the ‘I’ and the ‘you’ in this claim? The answer can be found in the legislation, which benefits *catadores* partly by attributing sorted streams of recyclable waste to them. This happens in a context in which competition for waste has been induced by growing recycling markets as well as the changing composition of the waste produced by domestic, commercial and, more so, industrial actors. This competition for rubbish becomes a public matter of concern.

For example, in March 2009, in the context of an economic crises that reflected dramatically on the sector, the cover story of the trade magazine “*Reciclagem Moderna*” (“Modern Recycling”) ran a six-page piece criticising the state support to cooperatives of *catadores* as “unfair competition” (see image below).



Figure 32 Cover of Modern Recycling (trade magazine) March/April, 2009 "Support of more than R\$69M strengthens coops causing a weak arm in the recycling sector" "Cooperatives vs Traders of recyclables."

In the introduction to this thesis I showed how the beginning of the municipal selective collection in Curitiba in 1989 was opposed by *catadores* and their advocates as an attempt to steal resources from the urban poor, even though it satisfied the demands of many international grassroots campaigners since the 1970's. All these political struggles, which are at the very foundation of the institution of recycling, are erased by the power of the chasing arrows image. This representation of an ideal consensus negates conflict and social change.

In reality, questions of justice and property are now paramount in dealing with what used to be thrown away and dumped. Law becomes a crucial part of this competition for

resources. The Brazilian legal system now contains several instruments that benefit *catadores*. Table 1 presents a list of the most important of those legal instruments:

Table 1: Federal legislation concerning *catadores* since 2002

Law/date/ institution	Summary	Relevance for organisations of <i>Catadores</i> (OC)
Portaria N° 397/ October 2002/ Ministry of Work and Employment (FH Cardoso Government)	Creates the Brazilian Classification of Occupations; (CBO)	Occupation nr 5192-05 is “Picker of Recyclable Material”
Decree 5940 October 2006 President Lula	“Institutes the separation of recyclable waste generated by organisms of federal public administration, at the source, and its destination to associations and cooperatives of <i>catadores</i> of recyclable materials...”	
Law 11444 Jan 2007 Congress and President Lula	Establishes directions for basic sanitation	Inserts a paragraph in the law 8666/1993 (biddings and public contracts): exempts the need for bidding competitions in contracting OCs for services of collection and commercialization of recyclable materials.
Law 12305 Aug 2010 Congress and President Lula	Institutes the National Policy of Solid Waste	<ul style="list-style-type: none"> - Integration of <i>catadores</i> in the processes of product life cycle – States the principle - Elimination of dumps associated to social inclusion of <i>catadores</i> living off and in them – establishes targets - Integration of OCs in municipal selective collection – makes federal funding dependant on it - Forces municipalities to prioritize partnerships with OCs in the management of consumer packaging - Creates economic instruments for funding equipments for OC’s and prioritizes funding for partnerships with OCs
Decree 7404 Dec 2010 President Lula	Regulates the National Waste	advances in some of the principles established in the policy

	Policy	
Decree 7405 Dec 2010 President Lula	Institutes the Program Pro- <i>Catador</i> with several instruments of support to initiatives meant for capacitating <i>catadores</i> and organisations to integrate the plans of waste management. Creates an inter-ministerial commission formed of 16 different government departments to oversee the application of the program	

The law of solidary selective collection and the fight for rights over waste

The ‘*lei 5940*’ is famous amongst *catadores* and people who work with them. It was signed in 2006 by President Lula to decree that all recyclable materials produced by federal institutions (such as Universities and post offices) must be separated and donated to organisations of *catadores*. The law calls it “solidary selective collection”. It has made possible the constitution of several associations of *catadores* comprising not only street collectors but also table sorters who work exclusively with donations. A few associations were constituted almost entirely by sorters. In Curitiba, a good half of the members of each association and cooperative only sort material from ‘donations’. The materials donated are called ‘the collective’ (as in ‘the material on those tables there is *the collective*’) as opposed to materials that are collected and separated by individual collectors.

In 2009, the government of Paraná issued a similar decree for State institutions; other Brazilian States have followed suit, forcing State Universities and other public institutions to sort and donate their recyclables to associations of *catadores*.

Waste and Property

Paraná’s Public Ministry is now pushing for a more radical measure. The State’s Public Ministry, through their environmental attorneys, and the Labour Public Ministry are arguing in the courts of law that private companies should also be forced to donate their recyclable waste to *catadores*, even when they could otherwise profit from it. Different

juridical arguments, such as the concept of adequate destination for solid waste, combined with legal definitions of rubbish and constitutional principles of social equity are used to achieve this goal. The Public Ministry's battle has had its advances and setbacks. In March 2011, using the legal instruments provided by the National Plan for Solid Waste Management, Honorato Saint Clair and Margaret Carvalho finally notified the State's "great generators of solid waste" to come up with a plan of "reverse logistic" and to include the associations of *catadores* in that plan⁵⁴.

According to both Margaret Mathos and Honório Saint-Clair, everything that is discarded by a company and has to be transported away from the space where it operates, is under the responsibility of the local authority. Therefore, legally, that material has no owner. It ensues that the local authority may donate it to whomever it wants; according to the Public Ministry, the associations of *catadores* must be its destiny. There are also social responsibility obligations, which the public attorneys use in their argumentation. As Saint-Clair explains:

"...today we have new social visions of enterprise, we also have the company's social responsibility [CSR]. CSR is a change in the idea of a company solely concerned with profit for profit. We understand that private companies may donate their materials from a perspective of CSR so that we can socially redeem this contingent of people that the economic model is incapable of redeeming. So companies can thus participate in this collective effort"

[Honorato Saint Clair, Chief State Environmental Attorney]

In the articulation of this notion of CSR, as a legal obligation rather than a public relations device controlled solely by the company, the discourse leaves the strictly legal language and assumes a straightforward political key. A commitment to a

⁵⁴ from the state public ministry website 14 March 2011

particular notion of social justice is expressed alongside the juridical argument. The attorneys defend the disentanglement (cf Slater 2002; Adkins 2005) of valuable discarded materials from the market networks in which they were generated. Its reintroduction in the productive cycle must thus be preceded by a benefit to the populations excluded from those very markets and productive processes.

The argument connects environmental justice and social responsibility. Indeed some private companies like Walmart, Coca-cola, HSBC and Alphaville have, as part of their CSR policy, supported cooperatives in Curitiba, partly by donating waste. However, the Public Ministry of Parana believes that it should not be left to the companies' discretion, but rather that the notion of CSR that underlies it should be enforced through legal devices.

Environmental and Labour Legal Politics

As the above pages suggest, Curitiba *Catadores* have had, in the last few years, fierce advocacy for their cause from the public prosecutors of the State, in the specific area of the environment and in the autonomous Labour Public Ministry. Honorato Saint-Clair coordinates the work of all the attorneys and public prosecutors invested in defending the “diffuse rights” of the environment in the State of Paraná. It is within the remit of his team to prosecute and to represent the common interests of the environment in civil courts. In parallel, as a labour attorney occupied with the issue of child labour, Margaret Matos de Carvalho has championed collective organization and recognition for *catadores*. Together they have formed a partnership that problematises the relationship between waste and law, highlighting the environmental and social value of the labour of informal collectors. They have also developed a problematic relationship with the local government. “We end up having conflicts with all the public powers”, says Saint Clair. Because the Brazilian state “is still an entrepreneurial State, the country has still large

needs for infrastructure; and because the environmental law is modern, that generates conflict”, he explains.

There are also stronger elements of dissonance with the local government. Those divisions originate in “different political visions”, continues the environmental attorney. The municipality generally takes “an economic approach, in terms of local development and we look at the social side and look after the most deprived populations, whose interests are not defended by the political powers. Unfortunately the confrontation will always happen”, he adds. Inside the Public Ministry, on the other hand, the articulation appears to be coming about and the effects seem to be positive.



Figure 33 Margaret Matos de Carvalho and Honorato Saint Clair in the March 1 2011 audience with the “large generators” of solid waste – (photo: PM of Paraná website).

“So what are we doing?” asks Saint-Clair, and he answers: “we are doing social work. We want the *catadores* to leave this situation of misery”. In a way, the idea is to explore the law in order to make up for the inefficiencies of the public policies. “Since the country doesn’t do social welfare, although there are official programs, etc, and since they [*catadores*] already have a work activity that they know and can do, we want to destine this economic slice [the profits of material recovery] to them, through cooperatives”. The

Public Ministry thus assumes this advocacy of the *catadores* as a confrontation with the State but also with private interests.

“That’s why we do not want private companies to come in and take their [catadores] income, for then they won’t have any other opportunity of work...”
[Saint-Calir]

Environment and labour law enforcement is also the alibi for the juridical power to take an activist role in the matter. In Parana, the Public Ministry does more than just deal with law documents and court procedures, as will be detailed next.

Waste and Citizenship Forum: Beyond the “Stroke of a Pen”

“I work in an area [child labour] that demands this kind of articulation with society... So when some new piece of legislation is proposed, the [Waste and Citizenship] forum is the place to start thinking of the problem in a general way, as a whole... You have no other way of enforcing the budget... everything that is written in the constitution... the decentralization of power through councils and participative forums, that’s a space of control of public policy, of social control. And we promote that. Because in this way you change the essence, you bring consciousness, critical mass, you empower the citizens, society in general...”

[Margaret Matos de Carvalho, Labour Attorney in the State of Paraná]

On the first Thursday of every month the Waste and Citizenship Forum takes place in the auditorium of the State’s Labour Attorney Office in Curitiba. Uninterruptedly since 2001, the Forum has hosted discussions relevant to the informal recyclers of the state of Paraná, bringing together different organisations, State organisms and individuals under the coordination of Margaret Matos de Carvalho.

Forums like this have been created in the past ten years across Brazil, at state and municipal levels. They follow the national Waste and Citizenship Forum, founded in 1998 by UNICEF, as part of a campaign to eradicate child labour in informal waste collection. The main focus of the campaign was the problem of children working and living in rubbish dumps across the country. This was also the initial concern that motivated the State's Labour Attorney Office of Paraná to initiate the Forum in 2001. Today the latter has aims that go way beyond the specific problem of child labour.

According to Margaret Matos, this is an important innovation in the role of the Public Ministry (*Ministério Público*), very dependent upon the particular characteristics of each attorney. As she told me, it is impossible to tackle complex problems, like child labour in rubbish picking, by means of “*canetada*” (the stroke of a pen), i.e., solely by issuing orders and penalties. Prosecution is an important part of her work but it is not sufficient. Would it be effective to tell an informal recycler that it is illegal to take his son out at night to work with him, or that he cannot store rubbish bags at home in order to be sorted by the whole family? Is it possible to tackle the problem of child labour without helping to build alternatives where children's work may be neither necessary nor acceptable?

According to this jurist, the answer to these questions is *no*. The solution to this problem can only result from the creation of the social and economic conditions under which these families can comply with the law. They include the provision of childcare and early education for all, the improvement of the means of sustenance, the division between living space and workspace and the control over means and process of production. Responding to my comment about the leftist tone of her discourse, Margaret Matos de Carvalho assumes:

“Brazil is developing a critical conscience; it is no wonder that our President [Lula] is leftwing... Our constitution of 1998 enlarged substantially the spaces of popular participation... then little by little those spaces of intervention in public policy are being recognised... and there is no way back”. [Matos de Carvalho]

As much as the public powers are not interested and resist that kind of participation, “we in the Public Ministry have the obligation to guarantee that everyone has a voice”. The monthly meetings of the Forum are a crucial part of the Public Ministry of Paraná’s strategy.

Networking

The picture in Figure 34 shows the panel gathered for the May 2010 Waste and Citizenship Forum. It was formed (from the left) by:



Figure 34: Speakers in the Waste and Citizenship Forum of May 2010

- The state’s Chief Labour Attorney, Ricardo Bruel;
- The coordinator of environmental attorneys of the state’s Public Ministry, Honorato Saint-Clair;

- Federal Labour Court judge, Ricardo Tadeu da Fonseca⁵⁵;
- The representative in Paraná of the National Movement of Collectors of Recyclables, the catadora Marilza Aparecida de Lima (holding the microphone, in the picture);
- Labour attorney and Forum coordinator, Margaret Matos de Carvalho;
- The state's Chief Prosecutor, Olympio Sotto Maior Neto and
- Schirle Margaret dos Reis Branco, member of Agenda 21.

Before the start of the session, every one of the more than a hundred people in the audience introduced ourselves to the assembly. This is a routine procedure in these forums for its main aim is to generate the possibility of exchanges between people and organizations, which is referred to as *networking* in English. During the initial presentations I had the chance to find out that I was surrounded by local authority officials, lawyers, PAs of judiciary officials, one academic researcher in the area of geography and another one in third sector law, presidents of associations of squatter settlements' residents, NGO workers, social workers, labour health and safety organization representatives, trade unionists, catholic priests, interested individuals and many *catadores* representing associations of recyclers from across the state⁵⁶.

After the presentations and the different points on the agenda, which included an emotional surprise homage to Honorato Saint-Clair (as the meeting coincided with his birthday) the event finished with a social lunch, in which different people who operate across the state could exchange ideas. Waste-pickers with various degrees of literacy, had the opportunity to mingle and talk at the same level with public officers and magistrates. People who push carts full of waste across the city for a living, who lack (but also cherish

⁵⁵ The first blind judge in Brazil.

⁵⁶ Everyone in the room had some particular interest in issue, but they were also there because of the importance of the jurist being honoured. The high-profile panel in particular was clearly due to Saint-Clair's prestige. Margaret Matos noted in her introduction of Bruel that after the Waste and Citizenship Forum's launch event, on April 30th 2001, this was the first time the Forum had this "legitimation" from the presence of Paraná's chief labour attorney.

freedom from) routine impositions and formal work relations, sat in an auditorium for hours listening and then chatted holding a glass and a plate in a smart environment. The surprise with which I registered this image is a reminder of certain pre-conceived ideas about the right place for certain bodies and social interactions. When the researcher observes *catadores* on the street or in cooperative settings, even if one talks to them and learns to know them beyond ideas of total deprivation, she or he still erects many social barriers that could be removed or overcome. At the same time, throughout the event, magistrates in suits seemed comfortable mingling with *catadores*. One cannot avoid thinking of the potential impact of these monthly meetings on the habitus of those who participate in them.

Doutora Margaret – as she is known among *catadores* and NGO workers – expressed to me how important that was:

“The forum comes up in the sense of the Public Ministry as articulator of society. So let’s call everybody, everyone that has some relationship with this issue so that together we can think about solutions... In these meetings we call municipalities to present their programs, it is public, the *catadores* listen, they ask questions, it is in this sense, really, an articulator. So let’s get the university X together with... like you for example, you were there on that day, you met association Y, you probably think differently in some point... so it’s this space, promoting public policy, bring about new partnerships, make everybody think together, in articulation with the aims of the forum... and the *catador*, as you saw, sits there as an equal.” [Matos de Carvalho]

It was also for me very surprising to see representatives of the local authority, in open opposition to the Public Ministry and to the forum, sitting at the meeting and using its networking possibilities. They did not attend the after social but they were in the

corridors with their assistants making appointments and exchanging ideas⁵⁷. In section two of this chapter I will present the municipal side in order to unveil the reasons for this tense relationship.

Variable Geometry – the Peculiarity of Paraná in the History of the Brazilian Waste and Citizenship Forum

The Public Ministry's leadership of the waste and Citizenship Forum in Paraná is a unique case in Brazil. In most of the other more than 20+ State forums across Brazil, the leadership is assumed by the likes of organisations concerned with health issues or with engineers related to waste management. The involvement of attorneys with the forum ensues from the intersection with the forum's origins.

In 1998, a research study commissioned by the United Nations Children's Fund (UNICEF) estimated at 45 000 the number of children working in waste picking around Brazil. Of those, 30% had never been to school (Dias, 2006: 2). "Some experiences of partnerships between local governments and the civil society in recycling projects were analyzed in this study" (ibid), indicating that variable forms of articulation were demanded by the complexity of the problems of urban waste management and child labour. These findings led UNICEF to launch a national forum comprising 19 organizations. One year later, the forum launched the national campaign "No more children in the rubbish", which garnered acute public attention. The dimensions of the country imposed the need to decentralize and disseminate this new flexible institutional model. In the first years of the 21st century, State and Municipal forums started to form and spread throughout the country.

⁵⁷ After a long saga, I managed at this event, to speak with the coordinator of the *Eco-citizen project*, the municipal program of creation of trading centres for the *catadores*.



Figure 35 Map of Brazil with the States that have Waste and Citizenship Forums in green. (Polis, 2007)

As of 2007 there were Waste and Citizenship Forums in 23 States across Brazil (see 5).

The organizational geometries are variable, in concomitance with the ethos of the original Forum. The main driver and coordinator of each forum is also different depending on the state. In the State of Sao Paulo, Polis - an important NGO “closely identified with issues related to cities and activities in the field of public policies and local development” and focused in the “exercise of citizen's rights as a democratic achievement”⁵⁸ - fulfils this role. In the State of Rio de Janeiro it is a professional association of sanitary engineering that has sheltered the meetings of the forum for more than a decade. In Minas Gerais it is ASMARE – the most well known cooperative of

⁵⁸ Polis website, consulted in September 2010.

catadores in the country - who has been at the forefront of the Forum. ASMARE is itself an example of eclectic collaboration, being mobilized and supported by NGO's, local governments and religious organisations. Belo Horizonte, the capital of Minas Gerais is the setting for the annual Waste and Citizenship Festival, which attracts participants and visitors from Brazil and abroad.

The Waste and Citizenship Institute

Paraná's forum is unique in that it is coordinated by a judicial institution. It also has an organizational particularity, which compensates the Forum's soluble configuration. The Labour Public Ministry has created an NGO (the Waste and Citizenship Institute), which acts as the executive arm of the forum. Thus, in between the forum's monthly gatherings, there is a permanent organization in charge of implementing the mechanisms of support that the forum elicits as appropriate for pursuing its aims.



Figure 36 - The hallway of the Waste and Citizenship Institute-PR.

The Institute's labour force depends on the number of projects in motion at one time. It is mainly comprised of popular educators, social educators and administrative staff. In its

headquarters there are computers and meeting rooms regularly used by *catadores*, especially the officers of the National Movement (MNCR), which has a dedicated space on the premises. The Institute gives support to 59 groups in the state. It has worked with some of those groups since 2002, one year before its official foundation. Support ranges from the identification of the community, formalization of the group to the analysis of the best formal options to adopt, either association, cooperative, informal group and so on. In the city of Curitiba, the institute only supports one big group – CATAMARE. CATAMARE is also part of the municipal project *Eco-cidadão* (Eco-Citizen) initiated and sponsored by the local authority. At the moment CATAMARE is at the centre of a project to create a central plant for commercializing PET flake. Since the municipality has a similar project, which involves another cooperative as the centre of its operation and both projects will demand a high intake of PET bottles per day, the projects have more than enough potential to generate conflicts within *catadores'* associations. We will come back to this after discussing the politics of the municipality and of the leaders within the movements of *catadores*.

Eco-cidadão – Project or Policy?

As I mentioned in chapter four nine associations of *catadores* were created in the city of Curitiba since 2008, as part of *eco-cidadão*. The municipal environment department funds the initiative and has the technical support of the municipal social services. It is delivered by the NGO Entrepreneurial Alliance, which manages all the financial and logistical resources provided by the municipality. The NGO also deploys full time technicians to support the groups in administration and managerial tasks.

The project initiated as a partnership with the State's Waste and Citizenship Forum, but the collaboration was broken due to “political problems with the Public Ministry, in particular with Margaret, who presides over the Forum and Institute” [Ana Flávia, Municipal Environmental Secretariat, coordinator of *eco-cidadão*]. The Waste and Citizenship Institute was part of a management committee that accompanies the project. At the moment, this committee is composed by NGO entrepreneurial Alliance, AVINA foundation, the Municipal Environmental Secretariat (SMMA) and the municipal Social Services (FAS). This section sketches the organisational architecture of the project and evaluates its political perspectives, based on interviews and ethnographic data. The aim is to confront the project with the positions of the Public Ministry to map the environment in which *catadores*' political action comes about.

Politics and Social Consciousness

The coordinator of *Ecocidadão* - Ana Flávia - is an officer of the environmental services. In our interview she expressed the main concerns of the project. The increase in recycling rates is the main objective. “At the moment, Curitiba recycles 20% of its waste, and there is a growing potential of 18% [it can become 38%]. This project is designed to contribute to that goal.” Because, according to Ana Flávia, *catadores* collect 92% of the urban waste recycled in Curitiba and the formal collection only 8%, it makes sense to

invest in improving the “informal collection”. Ana Flávia is following a power point presentation with formulaic pictures, graphs and figures. I try to disrupt it by questioning her, although I appreciate the effort and professionalism she is putting into it. I am trying to understand how the recycling figures are devised.

This is the maths: the municipality through ‘rubbish that isn’t rubbish’, ‘Green Exchange’ and ‘rubbish purchase’ collects 32.39 tons of recyclable waste per day. That’s the formal collection. This number matches the figures I collected at the municipal recycling facility – although they do not account for the nearly 40% of non-recyclable waste that the facility disposes off. In order to get to the official 20% recycling rate, the municipal environmental services multiply two estimates. The municipality estimates that there are 3600 *catadores* in the city. They multiply this number by 125 kg, an estimate of the average daily load per *catador*. The result is a figure that is more than 10 times as high as the formal municipal collection. Thus this project tries to increase recycling through an increase in the “informal” collection, as Ana Flávia’s power point calls it. The goal is to have all the 3600 *catadores* involved by 2012.

Apart from the typical environmental concern with recycling rates, Ana Flavia voices other sets of concerns. There is, first of all a preoccupation with tackling a social problem and awareness to the chains of exploitation to which *catadores* are subjected. “We know now that between *catadores* and the industry there are between six and eight intermediaries”. This figure may be an exaggeration. The average is more likely to be between two and four, but there is no doubt that the project succeeds in reducing that number to the lower end, even to one intermediary before the industry – as we saw in the case of plastics.

The main problem is that the number of *catadores* involved in the project is extremely reduced. At the time of fieldwork, there were 13 associations and cooperatives involving

no more than 1000 members. Furthermore, a significant part of those numbers are of separators who never used to be waste-pickers before and who were simply attracted to the project. It is also important to remember that 3 600 is a very unrealistic estimate for the total number of *catadores* in the city; the real number is likely to be at least three times as high, as we've seen. So if the project may help increase recycling rates as well as to generate an organisational and educational critical mass, the ability to effectively multiply its results depends necessarily on political dynamics that reverberate on the rest of the class.

Urban Order, Control, Image

Some of the concerns underlying the project are revealed throughout the interview with the project's coordinator. There are repeated references to image, to the visual impact of *catadores* in the streets, to questions of order, hygiene and control. The presentation highlights the use of vests and other identifiable standard equipment, gloves and other protection devices, control of pushcart traffic through the city and programs like labour gymnastics that promote health at work. I question it. From what I understood from many conversations with *catadores*, those forms of control are not very much welcome amongst them. Ana Flavia, reiterates that these are important aspects of the project. Control and visibility are important hinges of the project with other municipal departments.

At IPPUC, the architectural icon that hosts the internationally renowned Curitiba Institute of Urban Planning, I found out that the only time that the institute engaged in an issue related to *catadores* was specifically to regulate traffic. In the end the project was never implemented although one aspect of it was in application at the time of fieldwork: in the centre of Curitiba the disposal of waste is not allowed before six o'clock, in order to keep *catadores* from swarming into the centre during rush hour.

At the newsroom-like municipal department of communication, in Curitiba's 'Civic Centre', I interviewed one of its officers. I asked her whether it wouldn't make sense to include *catadores* in the new materials promoting the sorting of household recycling. After learning from Ana Flávia that *catadores* are responsible for 92% of the waste recycled in Curitiba and that the municipality had just redesigned its famous rubbish that isn't rubbish campaign, I was intrigued as to why *catadores* are still not part of the municipality's communication strategy. Juliana Midori, marketing coordinator in the local authority explained:

"We are waiting for the results of *Eco-cidadão* before fully including *catadores* in the municipal communication strategy. We have been posting some videos on the website with visits of the mayor and his wife to associations of *catadores*. But we are waiting to see how *eco-cidadão* develops." [Juliana Midori 2010]

Order, cleanliness and tidiness are connected with visibility, de-clogging and separation of flows. The municipal focus on control, recycling rates, and image confirms a particular perspective on environment and urbanism. Curitiba's model of development and vision of ecology is at odds with the existence of informal labour and squatter settlements – or "occupations", or "invasions", as *favelas* are geo-labelled by the IPPUC. "For", as Simone writes, "the seemingly coherent landscape of the city is only possible when unruly eruptions, interference and murkiness are negated or erased." (2010:11) In the building of the "ecological capital", waste-pickers have been recurrently discarded and await the possibility of being recycled.

If concern with image and control have been familiar aspects of governance in Curitiba for at least two decades, the *eco-cidadão* project poses new challenges. As part of an attempt to upgrade its image from 'ecological capital' to 'social capital', expressed during the mayorship of Beto Richa, the *Eco-cidadão* project, with its organisational architecture

and choice of partners, reveals a particular take on social policy. The NGO Entrepreneurial Alliance, commissioned to deliver the project on the ground, reflects that perspective.

Entrepreneurial Alliance

The NGO official in charge of the Eco-cidadão project, Rafael Cardeal, receives me at the premises of Entrepreneurial Alliance when the night has already fallen. There is a woman working a sewing machine in the room. She is part of one of the groups that is being supported by the NGO. Rafael opens a powerpoint presentation as we sit down for the interview, just as did Ana Flavia, from the municipal environmental services. He seems to be more welcoming to my questions. A big part of the presentation is concerned with the organisation's history and philosophy. Inspired by Mubammad Yunnus and his micro-credit proposals, as well as other social entrepreneurial theoretical currents, the NGO was created by a group of University students and evolved from a project called "workshop of dreams". After evolving through different stages it now helps groups (rather than individuals, as it did in the beginning) to organise and formalise businesses that build on skills available in communities of low income.

Entrepreneurial Alliance got involved with groups of *catadores* through a wider project in the municipality of Colombo (metropolitan Curitiba) from which cooperative CoopZumbi (mentioned in chapter four) was formed. It was an initiative of Alphaville, a luxurious gated community whose golf course runs at the borders of a very poor *favela*, as part of a CSR commitment to the surrounding population. It included six different groups engaged in different trades, of which only the cooperative of *catadores* and another group survived. Copzumbi is, as we saw in chapter four, in a run-down state after the end of the NGO's support. But nevertheless, the expertise acquired in the process granted Entrepreneurial Alliance this big contract with the municipality of Curitiba.

The NGO was at the time when I interviewed Rafael, preparing the annual report to present to the municipality and he admits that the relationship with the organisational architecture of the project presents new challenges. Another set of new challenges that *Eco-cidadão* brings to Entrepreneurial Alliance result from the characteristics of this group. Working with *catadores* is much different from what they are used to when working for example with the group to which the woman sewing next us belongs. Aside from the particularities mentioned in chapter four, in terms of initial investment and the size of the groups, *catadores* present, according to Rafael, particular characteristics that consubstantiate a particularly difficult challenge. The fate of Copizumbi made Rafael even more attentive to the fact that *catadores* are for their circumstances prone to be individualistic and inclined to adopt a short-term perspective. These characteristics result in increased difficulty when it comes to organisation. Therefore, whilst the Alliance's work with other groups involves plans for weekly, or fortnightly visits, associations of *catadores* demand the presence of two full-time technicians in each organisation. Furthermore the NGO counts on the support of Juarez and Felipe who, as we saw in chapter four, do the rounds of all associations in the project and help in the formation of new ones.

Another particular characteristic of *catadores*, according to Rafael, is that they form a very strong and active political movement, although "much less confrontational than say the landless movement". In his opinion, this moderate attitude has granted them the ability to negotiate with public authorities and hence make much more progress than other groups in terms of state support. He claims that the NGO has a productive relationship with the political movement of *catadores*, which derives from the alliance's respect for their moderate approach. Furthermore there is, according to Rafael, a sort of tacit division of labour that leaves the Entrepreneurial Alliance out of political commitments.

The Public Ministry's Critique: Project versus Policy

However entrepreneurial focused and allegedly apolitical, one can argue that the philosophy of the NGO is a political program in its own right, certainly much different from the perspective adopted by the Public Ministry. The Labour Attorney Margaret Matos criticises the municipal project thus:

“(...)to help *catadores*... It won't be the little project. What is needed is program. Public policy! And public policy, in this case, comes down to one thing: hiring *catadores* to do the selective collection and pay for their work, not just pay for the little hut where they will separate.” [Matos de Carvalho]

According to Margaret, the municipality of Curitiba should follow the example of other local authorities, some in the state of Paraná, which contract with cooperatives for the service of the collection of recyclables. Instead, Curitiba (like many other municipalities around the world) hires a private company who is paid for the work that *catadores* also do for free. She explains:

“When I say ‘hiring’ I mean hiring the cooperative. Like with the private company they contract [to collect the waste and recyclables], the municipality doesn't interfere with the way they organise their work, do they?” [ibid]

In consonance with the labour movement of *catadores*, the Public Ministry of Parana has been defending that it doesn't make sense to support the formation of cooperatives and to develop projects to help them with the organisation, if it then pays a private waste management company for the same service. It also happens (as we saw in chapter 4) that some of the truck-loads collected by private contractor CAVO are unloaded in cooperatives to be sorted, since the municipal recycling facility has no capacity to process them. The municipality sees this as a donation rather than a service provided by cooperatives. The idea of a project of assistance that is not accompanied by a policy of

rights results in a focus and possible reproduction of an exogenous characterisation of *catadores* as inadequate subjects of organisation and politics, who need to be assisted and accompanied closely in order to be kept on track. But it may also be that the Public Ministry's conflictive stance and intransigence in a rigid form of politics also present an approach that threatens *catadores'* ability to affirm their own political views. In order to see how this division plays out, one needs to look at how *catadores* articulate themselves as the subjects of political action. That is what the last section of this chapter seeks to show.

Catadores as Subjects of Politics

The open plan office at 'HSBC Systems' in Curitiba has an unusual movement today. The office is a large space with six or seven parallel double rows of computers. This morning, fewer than ten amongst the hundred or so people in the room look at their computers, apparently carrying on with their jobs. The others, many of them standing up, are facing the far side of the room, from where Marilza and Lia address them, humbly dressed in their impermeable jackets, woollen hats and old jeans. They are both members of cooperative CATAMARE; Marilza is also the leader of the Paraná branch of the National Movement of Catadores. Lia is at the end of her speech and Marilza steps in to answer a question about the organisation of the cooperative and the destiny of the materials: "And do you sell to recycling industries?", asks an executive dressed woman.

"Everything goes to the cooperative, then it is separated, 1st class paper is one thing, 2nd class paper is another, green PET another, transparent PET, tetrapack, [etc]..."

Marilza is trying to clarify but she gets entangled in the muddled explanation of political geometries:

"...But now we are setting up a Centre, because..., here's how it is: everything you hear about Curitiba is not true. In reality it is all very different. CATAMARE is part of the project Eco-cidadão, which is ran by Curitiba's local authority. What is Eco-cidadão? The municipal government provides infrastructure, equipment and technical support for shared management. But CATAMARE existed before and catadores always managed the cooperative. And we had a baler, a scale, computers, and all. But where we were before, the space was very small. So we presented a project to the National Bank for Social Development (BNDES) to get a larger space. And one of the demands of the funding was that we were in a partnership with the municipality. And this is why we joined the project"

Marilza continues still failing to enlighten the bank workers as to what happens to the materials that they collect and what would happen to the materials that they could potentially donate to the cooperative. The HSBC initiative is a CSR project called the "P.E.T. gymkhana", in which they wanted to find out more about recycling and about the possibility of sorting and donating materials (especially plastic water bottles) to cooperatives of catadores. Marilza proceeds with her explanation about the sale of materials:

"But today, eco-cidadão wants to build a network of commercialisation only between the groups that belong to the project, which are CATAMARE and some other associations in the city. But CATAMARE was created in 2006, before the project. CATAMARE should be the centre of the network. And because we work with the Labour Public Ministry, with Dr Margaret Mathos

de Carvalho, who is a marvellous person and coordinates the State's Waste and Citizenship Forum, we managed to reach an agreement with the municipality of S. José dos Pinhais to have our central plant there, and with companies who generate a lot of materials to fund some equipment that we need in order to get closer to selling to the industry”

In her speech Marilza expressed her admiration and partisan siding for the Public Ministry against the impositions of the municipal project. As we saw in chapter four, ACAMPA - the association located in the industrial district – was at the moment going through a transformation in order to become the umbrella cooperative of the network of commercialisation supported by the municipality. CATAMARE is set to be the central cooperative of the other network sponsored by the Public Ministry. Of course having two centres of commercialisation close to each other demanding a high input of the same material (PET) on a daily basis is not ideal. Especially since the two organisations behind each of the projects do not cooperate. It also causes problems for leaders of the movement of *catadores* in public speech situations like the one described above.

Despite the tension it generates CATAMARE participates fully within the municipal project as much as it is involved in the Waste and Citizenship Institute. They tread on a splitting terrain, which the members of the cooperative straddle, creating more or less complicated situations. One aspect of the division comes from the fact that, as part of the Waste and Citizenship Institute, CATAMARE has developed networks with the State and with the metropolitan area. The municipal project, on the other hand, is obviously circumscribed to the city. Thus, as the Public ministry deals and litigates with several municipalities it manages to convert connections and legal victories into benefits for the *catadores*. CATAMARE has been able to navigate in both waters and this has been the cause for criticism by municipal officers. However, Waldomiro Ferreira, the president of CATAMARE defends the cooperative's dual position by arguing that this is

how he can get all the support available for the *catadores*. Waldomiro personifies one aspect of that duality, since he lives outside Curitiba (in S. José dos Pinhais) and has assumed a position of leader amongst organised *catadores* predominantly from Vila das Torres- the largest *favela* next to the centre of Curitiba. Paradoxically, dealing with the two conflicting institutions – the State’s Public Ministry and the municipal government - allows the cooperative to resist control from any one of the organisations.

Control and Refusal

There are many instances in which *catadores* resist conformation to regulatory pressures from the institutions who claim to be their advocates. The issue of identifiable and safety equipment is a recurrent problem for the technicians of the project in their interaction with waste-pickers. Other ethnographies of waste-pickers refer to this as tension between attempts to control *catadores* and their constant moves to resist being normalised. For example, Millar (2008; 2012) has shown through her ethnography of Rio’s dump, that *catadores* resistance to being controlled is expressed in the rejection of the numbered yellow vest with which the company that manages the dump attempts to organise their labour on site.

Likewise, during fieldwork I found several instances in which attempts to impose control over labour processes and equipment were received negatively. Several *catadores* expressed rejection to any attempts at controlling their circulation through the city. The difficult cohabitation between pushcarts, horse-carts and accepted vehicles– cars buses, money collection vans, etc – is a main issue for governance in Curitiba. The proximity of the football world cup only exacerbates those worries, but every time I mentioned ideas to control the circulation of informal collection I received strong responses of rejection by *catadores* who invariably disbelieve the possibility of anything of the sort ever being implemented. They also generally avoid or reluctantly accept wearing the *eco-cidadão*

uniform, which identifies the project and has the word “*catador*” written on the back. Moreover, any attempts at introducing safety equipment such as gloves and safety boots are consistently dodged. We have also seen how members were attracted to the association by the fact that it “has no boss” (see chapter four) and that they can follow their own schedule. Finally I have found at least one *catador* on the streets of Curitiba who out rightly preferred the harsher conditions of autonomous work than to be subjected to the control of the cooperative work.

All these examples explain Rafael’s characterisation of *catadores* as an occupational class trendily resistant to control and therefore to organisation. Yet, there are different levels at which this resistance can be carried out. In many ways, the resistance to being controlled can in fact be an element of associative processes, which are necessarily more politically engaged. At a national level, the political organisation of *catadores* assumes the form of a labour movement very similar to a union in many respects.

MNCR - The National Movement of Catadores

Several informants connected to the *Eco-cidadão* project expressed their disapproval for CATAMARE’s duplicitous position. However, the fact that Entrepreneurial Alliance tries to “stay out of politics”, as the coordinator for *Eco-cidadão* Rafael told me, and that the municipality also does not think that fostering political engagement is not an aim of the project, leaves an open space that is filled by the Waste and Citizenship Institute. As we saw above, the State headquarters of the National Movement of *Catadores* (MNCR) is located in the premises of the institute. As I witnessed throughout my fieldwork, all local leaders of the movement frequented the space of the Institute where they can find Margaret Matos de Carvalho more or less weekly. They participate in the weekly meetings thus getting acquainted with the political events and the activities of the institute across the state.



Figure 37 The official logo of the National Movement of Catadores.

The struggle of MNCR has been important in fighting for legislative changes that have taken place in the last decade. The labour struggle is in many respects similar to that of other labour movements. They also fight for resources that they believe should not be privatised and should instead be attributed to them on the basis that they work them and revalue them. In this they coincide with the “landless movement” or its urban affiliate – “the ceiling-less movement”, comprised of homeless people who occupy abandoned buildings. Thus the movement of *catadores*, presenting intersections with several other movements (Simone 2010) assumes particular characteristics. As labourers that are part of a diffuse industrial process, they assume a particular position of class. As an

outsourced element of that process, that position becomes more peculiar. Then as labourers who partially control their process and means of production, they have something to hold on to in their claims to power. The key point that distinguishes them from peasant hunter-gatherers, as Sicular (1992) labelled them is the very movement that prompts their demands.

Thus the MNCR is both concerned with labour rights, recognition and formalisation but it also fights for autonomy and to keep one important value: control over the process of production. Despite the many victories of the movement in terms of formal recognition by the state, the fact is that, as we have seen, part of the city that still devalues their participation to the level of rubbish. This notion is implicit even in the principles enunciated by some of their advocates.

However the work of the Movement of *Catadores* (MNCR) does not exhaust itself in the struggle for legislative change. It also produces leadership, organisational training and construction of networks across the city, the metropolitan region, the State and the country that helps generate a critical mass to build a positive image both to their peers and to the external world.

People like Marilza, Waldomiro, Edna, Lia, João and Francisco, individuals who have in the course of my fieldwork assumed representation of the class in different capacities, were certainly very important to my understanding of *catadores* as collective political subjects.

Sociological Imagination

In the course of this chapter I have explicitly touched three of the four notions of political action that I outlined at the beginning. The relationship with the state was present in most of what was discussed so far. The idea of collective action and the form

of the social movement was also present. The problem of social change and the conflicting interests that it confronts was also an important part of the narrative up to this point. Underlying all these dimensions is an idea of sociological consciousness that informs conscious political action. Contrary to assumptions of informal workers as self-interested, individualist, and politically unaware urban dwellers who are short-sighted by the need to survive and who “sell lunch to buy dinner”, my ethnography revealed a different picture. We have seen, in chapter three, Joel, the *catador* who drove a Kombi and showed an acute awareness of the relationships between the world financial crisis and the prices of materials. In the same chapter, Tiago presented his entrepreneurial drive that was informed by long term projects, which were only frustrated by external conditions. In chapter four, we found Francisco, a *catador* who was always keen to talk to me and call me to inform me of events for as he told me that he saw my work as a bridge between civilisations and that academic work as essential for political change.

Lia expressed one of the best examples of this awareness. It was through impromptu speech given on sidewalk in the city centre, as we stopped during her working day, for a food break. I will finish this chapter with a description of that moment:

“For the general public to be a *catador* is not an occupation, it has no dignity. There are people who pass here and say: ‘don't you want to get out of this life?’ Just like that. I say: ‘Why, no! The life I want is this one.’ It's what I like to do and what I know how to do. (...) I work in the rubbish because I need to and because I like it. It's something I do with love, with care; I don't do it lazily, you know, I don't do it with embarrassment. (...) Because I'm working isn't it?” [Lia]

Lia is producing this speech as she delivers it. She is talking to me facing my small video camera as she pauses from her work to eat some olives from a foil plate. Behind her, there is a pile of blue bags; behind them, her pushcart. We are next to a wall taking half

of the sidewalk's width, as the afternoon rush hour makes more people squeeze past us. She has already sorted the pile of blue bags behind her from the general black waste bags that she and some local shopkeepers have accumulated behind where I stand.

“...And there's one more thing: This rubbish... look at the amount of rubbish around here. Did I produce this rubbish? No, this rubbish was produced by society, by the population, it ain't me! It's those people from middle and upper classes that have more money to spend. Because nowadays everything is made easier for housewives, it is package for this and package for that. And because most housewives also have to work out of the house the whole day, so of course they prefer that. You arrive at the supermarket, the lasagne is already packed; you bring it home, you just have to chuck it in the microwave, it even comes on a plate already, which is also going to end up in the bin... And each day the supermarket is coming up with more novelties, things to make it easier for the housewife, so it's more packaging... and it's more rubbish!”[Lia]

And don't you produce a share of this rubbish, Lia? I ask.

“Me? All I produce is at home and it is not much. Because you know, we have a soda drink on a Sunday, or eat a better dish on a Sunday. And all the recyclable waste I produce, which is very little, I take to the Cooperative to sell. I usually joke saying that in the poor person's waste bin there's only banana skins and food that has gone bad [laughter]. And I thank god for the fact that they consume so much! Because if they didn't consume this much we wouldn't have so much work... Only problem is that rubbish is turning into a big issue. Every day, rubbish is turning into a more serious problem. I even think that these companies should start cutting down on packaging, because I think that it must also increase the price of products. For example milk in tetra pack is almost double the price of milk in a normal soft package. So the more packaging

they use the more expensive the product becomes... as long as you have the money to pay.” [ibid]

And without prompt, following on from her awareness to her position in the social and economic structures of the city, Lia claims her place in the city’s environmental achievements:

“And us, *catadores*, the much that we contribute to the cleaning of this city... They like to say that Curitiba is a first-world city, that Curitiba is the cleanest city. Well, they never mention that there are the *catadores*, who are contributing for Curitiba to be the cleanest city, the model-city. I don’t want to brag about it but the fact is that Curitiba is really very clean. The other day I went to São Paulo and I was taken aback. That city is really dirty. So I think we provide a great service to this people and they don’t recognize us. They pass here holding their noses, saying that it stinks, but this is not my rubbish, it’s theirs! I didn’t bring this rubbish from my house. I tell you one thing, there are some bins... it’s ugly... much worse than ours, the paupers’ bins. But I thank God for this rubbish!” [ibid]

Lia emphasizes the latest sentence by raising both arms to the sky as she walks away from me. Then she climbs to the top of her pushcart.

“And now I have to tread on the material to make more space.” [ibid]

In this speech, Lia swayed between the acknowledgement of the excess of urban waste and her dependency on it; between the critique of the environmental damage of consumer society and her reliance on its leftovers to provide for her livelihood, and between criticisms of Curitiba’s mainstream narratives and her pride in being integral part of the city. In her complex formulation, her discourse revealed an acute awareness of how her work is integrated in wider socio-economic structures as well as a class-

consciousness at the basis for her political commitment. Many other *catadores*, some of them with positions of leadership within the movement of *catadores*, but also some with no responsibilities of political representation, equally showed high levels of political consciousness in the conversations that I had. I recall here Francisco's interest in academic research, Marilza's interest in a famous Portuguese sociologist, and Waldomiro's concern with the formation of new leadership for the movement. This are just examples of a critical mass of political consciousness and action which is both a sign of the consolidation of strategies of affirmation of *catadores* and a motive to invest in understanding the transformations that are unfolding.

Conclusion: Open Space for the Reconfiguration of Strategies

This last substantive chapter of this thesis concerned politics. It has mapped and discussed the landscape of different ideological and interest camps formed in the arena where *catadores* have built their space in the city's economy and polity. I presented and discussed the different agencies, different ideological positions, as well as different notions of political action that have played out in forming the particular political arrangement in which Curitiba *catadores* work. The construction of *catadores* as political subjects happens in this conflictive context involving agencies that vie for defining *catadores* from the outside. This has a homological relationship with the politics of value discussed before. The affirmation of *catadores* as subjects of value and subjects of politics depends on a double movement: engaging different forms of external support and promoting their own forms of collective definition, resisting being classified from the outside.

As I have argued in this thesis, *catadores* stand between two systems of value – industrial value/exchange value, on the one side and ecological value/social value on the other.

What is interesting is that the political struggle of *catadores* in relation to the state has mainly concerned the supply side, i.e., the right to work and access materials.

Cooperatives are a step towards greater advantages in the market, but the political struggle has not produced much intervention in the market circuits or in the attainment of better positions.

One growing political issue is at the moment, changing that – incineration. During fieldwork I witnessed some discussions concerning the move of the Brazilian recycling policy towards incinerating as a means of energy production and the impacts of that move in *catadores'* livelihood. However those discussions only really took off in Curitiba after I left, and have since assumed primacy. Again environmental issues become

entangled with questions of justice and rights. But what is new is that the movement of *catadores* is forced to intervene politically in the market circuits that provide the demand for materials. As I have argued in this thesis, this may also force *catadores* to invest more in simultaneously creating alternative circuits of value that may effectively build some independence from univocal systems of value. These discussions around the incineration of urban waste also denaturalise the hegemonic notion of municipal recycling. Can *catadores* again use the opportunities opened up by that de-naturalisation whilst resisting the real threat to their supply of materials that generalised incineration involves? There should not be much need for argumentation against the consensus around municipal recycling. Its short global history of 40 years should be enough. But when we look at the future, to the political struggles that are emerging we can also see its demise. Incineration for energy purposes is the new trend threatening the dominant view on recycling. *Catadores* are at the forefront of these new political battles. We can also see the Public Ministry of Parana highly committed to fighting this trend.

In relation to *Eco-cidadão*, some of the most important outcomes of the project may be not in the fulfilment of its explicit aims and in what fills in the frame previously established, but exactly in what spills out of it, in the values generated outside the criteria of assessment for the project. The generation of collective dynamics, the opportunities for circulation of information, the possibilities for the formation of politically engaged *catadores* as well as leaders who represent the collective and enhance its profile are some of the most important outcomes of the project. The project's design, as we saw, explicitly excludes politics. Again here, a system of valuation that puts too much emphasis in immediately quantifiable criteria risks wasting important values.

Conclusion: The Uses of Countercycling

This thesis was firstly concerned with the description of an activity that is kept invisible. *Catadores* collect, sort, and sell urban solid waste. Through their particular forms of engagement with the city and its discards, *catadores* integrate the urban economy. They become part of a system of production — recycling — that includes several exchanges, of which the initial ones are generally informal. This chain of production moves waste materials collected by *catadores*, through several stages and market exchanges, through to the manufacturing industries, while keeping *catadores* excluded from financial gains beyond survival. Their labour is at the basis of an urban system of provision, which is central to the city's self-promotion discourses. The official recycling model, as well as most accounts of its achievements, usually excludes *catadores*, or at least does not acknowledge the impact of their labour.

Catadores also associate in labour cooperatives and political organisations through which they attempt to achieve better positions in the recycling market. Many *catadores* aspire to higher gains from recycling through social mobility and personal entrepreneurial projects. They also use these organisations to think collectively about social and urban change, and about their future place in the city.

All these opportunities, opened by 'cityness' and the potential value of waste, and created by the urban poor's needs and skills, are oriented by a tantalizing goal: approaching the final link of the recycling chain and selling to the manufacturing industry. It is true that all of the subsequent intermediaries, in the exchanges that lead recyclable materials to the final manufacturing stage, are able to accumulate capital, whereas *catadores* are not. But neither personal ambition nor entrepreneurship fostered in associations of *catadores* has succeeded in rendering less tantalising the goal of doing business directly with the final manufacturing industries.

Instead, I have argued here, it is the system of valuation implicit in industrial production that generates the exploitation of *catadores*' labour. Thus, rather than attempting to move closer to the final stages of a process in which the final goods are produced far from them, it seems more promising to divert the process so as to make sure that there are more final goods closer to *catadores*. Innovation, reuse, handcraft, diversion of markets, and symbolic uses of waste are underused options. Political action can make space for more of these kinds of options.

Two particularities place *catadores* in a good position to pursue this route. Firstly, the fact that associations, even though they are devised in order to leverage their position in the market, generate a set of dynamics that create values of conviviality, political potential, and critical mass. Secondly, because *catadores* operate between two different sets of values they are in a position to resist the inevitability of converting environmental and social values into market and industrial ones.

In the remainder of this conclusion I will seek to tie together the two threads of my thesis: the critical analysis of waste and recycling at a global level and the politics of value in which Curitiba *catadores* are immersed. My aims are twofold. Firstly, I want this ethnographic study to speak both to the *catadores* of Curitiba and to the understanding of the sociological centrality of waste, recycling, and waste-picking elsewhere. Secondly I want this thesis to contribute to make space for waste and recycling in social science.

Summary of the Foregoing Chapters

My ethnography of Curitiba waste-pickers is laid out in the core chapters of this thesis. I followed the journey of discarded materials through circuits that are activated by waste-pickers. The account started with *catadores* collecting recyclable materials from bin bags on the streets, or from the hands of local merchants and residents, using different

vehicles to transport them through the city (chapter three). It followed on to the cooperative settings where materials are sorted, processed, and from where they are sold (chapter four), through to the market transactions that lead those materials to the factories that use them as feedstock (Chapter five). These three chapters (three to five) form the first part of my ethnography.

Chapter five finishes with the production of bin bags from waste plastic at a factory outside Curitiba. This journey — from *catadores* rummaging through bin bags to a factory that produces those bin bags out of recyclable plastics — could suggest a rounded ‘cradle to cradle’ account. This linear narrative would render an image of a self-contained and self-sustained circuit, one that is circular, eternal and virtuous, akin to the image conveyed by the ubiquitous recycling symbol. Yet my interest lies precisely in what spills out of that ideal frame.

My argument is that the creation of value and social change lies predominantly in the processes that abstract models tend to treat as externalities. The revaluation of urban waste may not be restricted to the creation of market value. Perfect circuits just keep things moving; they model an end-of-history utopia, a steady state where social perfection has been achieved.

In many ways, recycling as material recovery and recirculation resembles financial circuits in that the discarded objects’ value is procured through the reduction to their abstract constituents — ‘pure’ substances— and the establishment of mechanisms of circulation for those substances⁵⁹. As with financial circuits, the evaluation of recycling networks may neglect all purposes beyond circulation. They tend to be assessed by

⁵⁹ The eminent and self-evident materiality of recyclable material markets hides its abstract and symbolic character patent in the fact that it reduces objects to conceived constituents seen as elementary, almost molecular unities from which all other objects can be remade

measuring the quantities, weights, and volumes of materials that are saved from landfill and made to circulate through market exchanges, and at what speed.

These assessments are made possible through the deployment of market devices, which convert savings in landfill tax, and add up market prices of materials transacted, as quantities of abstract value. As if the value of re-circulating objects' constituent materials could in itself simply write off all the energy spent in collecting and moving them. As if the ideal fluidity of 'reverse logistics' did not demand enormous amounts of energy provided by labour power and/or mechanical power to collect, sort, compress, transport, and extract materials from the 'urban ore' (as the municipal waste stream is often called). These processes of evaluation are defended as ways of internalising wider environmental factors in economic calculations. In fact, they tend to exclude values and people, by imposing one best way of recycling.

Furthermore, recycling should rather be called *downcycling* as no material can be reprocessed *ad infinitum* (Alexander and Reno 2012), maybe with the exception of gold and a few other metals in very specific conditions. The recycling model is thus ridden with conceptual operations that produce an idealised vision of a perfect sustainable cycle. This makes it less able to integrate other values, such as the ones created through *catadores*' work. As argued above, the recycling systems that are dominant in contemporary cities are evaluated through the measurement of quantities, efficiency, and circulation. This is why, throughout chapters three to five, I sought to underline additional values generated by recycling with *catadores*, as well as the ones that are blocked out by unidirectional developments in municipal recycling.

Chapter six concerned experiences and potential spaces of alternative material circuits that may generate and hold values closer to those of the *catadores*. Chapter seven focused on *catadores*' political struggles both at the federal and State levels

The Thesis

As explained above, this thesis focused on waste, recycling, and *catadores*. Waste (also known as rubbish, garbage, trash, discards) is a kind of stuff, a type of material. It is also a social category — pliable, contested, and crucial to understanding social change. Recycling (or “reverse logistics”, material recovery, reclamation, etc.) is a social process. In its most common use it is often confused with a particular modality of urban provision. Finally, *catadores* carry out the initial stages of the recycling process — collection and classification — thus reshuffling and/or reproducing categories ascribed to urban discards. In contemporary capitalist cities, waste-pickers are labourers of a unique kind, occupying a critical position in the economic system, after consumption and before production.

This thesis addresses the interplay between these three elements: waste, recycling, and *catadores*. In particular, I have discussed the ways in which they intersect, as well as the politics of value generated in this intersection. Municipal recycling is the process through which the city’s discards are revalued as raw materials for industrial production. In this sense, recycling assumes a stricter definition as *material* (and often, energy) *recovery*. This process of valuation occurs through market-building devices and mechanisms: abstract value, price, price information, circulation, and marketing sponsored by the state. In Curitiba, like in most Brazilian cities, this process of revaluation is largely started by *catadores*. Unlike what happens in most of Brazil, the municipality of Curitiba invests actively in the process, making the city appear closer to urban Europe and North America (though more in the official discourse than in municipal practices). The city’s commitment to recycling influences the local and regional markets to a large extent.

The catalogue of materials that are extracted from the urban waste stream by *catadores* is extensive, subdividing in up to 50 different classifications. It is also highly variable —

materials fall in and out of the sellable list as their prices oscillate, sometimes from positive to negative values. The definition of what is worthy of collection and how much it pays (or how much it costs to get rid of) is defined in constituencies in which *catadores* have no intervention. They usually follow instructions conveyed by the people who buy from them (middlemen). By and large, they simply perform that evaluation through more or less complex forms of mechanical judgement — following the markets' requests.

***Catadores* as Producers**

There are considerable advantages in having people, rather than mechanised systems, sorting recyclable waste. These advantages are mainly of two kinds. Firstly, *catadores* can do a finer separation. Secondly, they can adapt more easily to new market and industrial technologies, which are particularly fast changing in this business. (Here I am focusing solely on arguments related to market efficiency, as they are usually deployed in industrial and urban political forums. There are also clear social advantages in recycling involving *catadores* — lower carbon costs and contributions to employment, for instance.)

On the other hand, the labour intensive process of the collection and sorting of recyclables also has disadvantages, such as the fact that it may be slower and less capable, in terms of bulk-weight amassed and the speed of material processed, than the more automated and capital-intensive processes, which are now taking hold in many wealthy cities.

Labour-intensive recycling processes have great disadvantages for capital, in terms of investment returns. In the urban South they depend on informal labour relations. Thus, the integration of *catadores* with the rest of the recycling chain tends to be unbalanced,

causing problems for the efficiency of the system. As shown in chapter five, the middlemen, who buy informally and sell to formal industries or larger intermediaries, may distort the information conveyed from industrial agents to *catadores*, and vice-versa. Even if their capacity to adapt to new working procedures and forms of separation is far greater than that of systems based in standardized household separation, the middlemen's control over channels of communication poses many problems.

Political Questioning

For the reasons discussed above, waste-pickers face enormous limitations with regards to their ability to influence the process of valuation of waste and of their own work. The questions at the beginning of my fieldwork were related to this problem:

- Are *catadores* true social agents (mediators) in the recycling processes or simply intermediaries, passive pieces in a system of production but not interfering in it?
- How can *catadores* both struggle to stay in business and confront the exploitation to which this very business condemns them?
- What is the tension between integration in the urban economy and an ability to defend social space and produce change?

These questions raised the issue of political possibilities. In looking for answers to these questions, sociological research becomes a political enterprise, not in the sense of having a predefined political agenda, but rather because it analyses social processes not only for what they are, but also for what they may become. In this sense the social scientist looks at social processes in the same way as a waste-picker looks at rubbish — with attention to its unrealised potential.

Potential Values

After reviewing the remit of this thesis, I am now ready to sum up what my thesis is. *Catadores* are in a critical position to perform different operations of the valuation of waste materials. They occupy a crucial economic position after consumption and before production and between two types of exchange. When *catadores* claim, seek, or accept donations of recyclable materials from organisations, or when they collect, demand, fight for, or arrange the delivery of solid waste, they mobilise a completely different sets of values from those that are at play when, after a productive process of separation, they sell sorted materials to intermediaries. In procuring their supply of recyclable materials, they mobilise values related to the environment, social justice, charity, corporate responsibility, law and the like. When they negotiate and sell sorted materials, the market value dominates most of their exchanges. My main argument is that, despite difficult and sometimes dramatic social situations, *catadores* occupy a vantage position, which affords them an important set of potentialities.

When I started writing this thesis, in particular chapter five (Material Markets), I concentrated on the idea that middlemen (informal businesses who buy materials from *catadores*) were the most critical link in the recycling chain. I used the concept of ‘membrane’ (Coletto 2010) to make sense of the transactions performed by middlemen in the recycling circuits of Curitiba. It is true that middlemen stand in between informal and formal economies, as a membrane that is selectively permeable as was discussed above. They connect an activity that barely provides subsistence to one that generates substantial profit, including profit for middlemen themselves. The transactions between *catadores* and middlemen are indeed crucial, but they mark a straightforward process of economic exploitation. The sociological forms of violence that keep profit on the one side and minimal reproduction of life on the other are, in this case, not framed by

bureaucratic regulations. Rather they are associated with mechanisms of patron relations and assistencialism in which informal relations and formal projects mostly, although sometimes involuntarily, concur. As we saw in the previous chapter, the difference between project and policy is important here.

However, through the process of analysing the data and writing up, I found more relevant, in terms of what waste and recycling introduce in economic dynamics and contemporary social science debates, the transition between non-market and market transactions. *Catadores* stitch up a circuit of production that integrates, on the one hand, non-market forms of valuation (social, environmental, and resource based) and non-market forms of transaction (anthropologically relatable to gift, potlatch, kula exchange), with, on the other, market transactions purely understood in terms of quantified market value⁶⁰.

Thus, donation, reclamation, appropriation, informal competition for space and for resources, and cooperation constitute the non-market side of *catadores*' collection work. On the other side, there are market transactions, if mostly developed in the particular contexts of informal economies. Changing the focus to this interface seems not only epistemologically more fruitful and convergent with my questions and data, but also politically more promising, since it places *catadores* as potential protagonists of positive social change.

In most of the work they do, *catadores* follow instructions of, and respond to, the market of materials for industry. This is not to say that there is not a considerable level of skill and professional proficiency involved in their labour. I hope that I have made that clear in chapter three, when I described the work processes of *catadores* as well as the different

60 Municipal services in organised processes of municipal recycling in the UK occupy a very similar position, in the sense that they secure donations (often imposed by coercion of the legal and/or moral type) and then establish a market relationship on the other side with the company that receives the materials collected.

tools, vehicles, and social and technical skills necessary to carry out their job. It also does not mean that *catadores* are always obedient informal workers who perform their role without making any demands. Their associative dynamics (discussed in chapter four), and political organisation (in chapter seven) are strong and have secured many advances towards social recognition, including in legislative form. Yet, the potential of their labour struggle is far from fulfilled. If anything, they demand more just recognition and remuneration for the work they do.

Cooperative engagement with the markets — inasmuch as it provides access to instruments of production such as workspaces, bailing machines, and trucks, as well as the negotiation of sums of individual loads — allows *catadores* to climb up in the productive chain of ‘reverse logistics’. It is true that it is crucial to improve the immediate conditions of some *catadores*. However, I have argued here that the most relevant advantages of cooperative processes are located elsewhere.

Through associations that confront economic exploitation, *catadores* generate other kinds of value, through collateral dynamics. The capitals of political intervention, organisational skills, and ensuing social recognition attained by participating in organisations such as the Waste and Citizenship Forum and the National Movement of *Catadores*, as well as in their own labour cooperatives, represent invaluable gains.

Invaluable as they might be, it is crucial to find ways of accounting for these values. It is also essential that *catadores* develop other paths to confront economic exploitation more effectively.

What I am suggesting here is that, in terms of political economy, *catadores* have the possibility to go further. By way of their positionality, they may be able to perform different value conversions and not just claim more market value or better positions in the market chain. Thus they can effectively surpass the violence of being commodified

waste themselves — excluded populations precariously re-circulated into the economy. Thus they may become agents of change by being agents of new reconfigurations of circuits of value.

I understand the limitations and risks of this thesis. In many ways, *catadores* belong to a set of urban dwellers that are used to carrying the weight of unsupported social action. They have to constantly reconfigure themselves and the surrounding environment guided only by horizons of potentiality and hope. In many ways the proposals of this thesis can be seen as an increase on this pressure, a reaffirmation of what the city already does: to put the onus of securing the survival and struggle for emancipation on the urban poor themselves and on their self-building dynamics. Yet the interest of this project is on the politics of collective self-emancipation that coordinate political intervention with transformation through labour. This is what this thesis seeks to highlight, with attention to the dangers and limitations of adopting this view (cf Illich 1973, 1978).

Expanding the Notion of Value

As stated above, this thesis results from an attention to potentiality. It also results from the collection and analysis of data from different sources. I will next seek to summarise, using a few examples, what this data said in relation to my thesis.

Negative Value

Many of the participants in this research have been working with recycling for some years. They remember the times immediately after the global financial crash of 2008, when the price of recyclables plummeted, threatening their livelihoods. Consulting the graphs of waste materials' price in British trade publications one can verify that this drop of prices was global. In Britain, the drop in market value may result in negatives prices, due to environmental regulations geared towards introducing monetary quantifications in all transactions with waste. Thus, if an organisation, which usually profits from selling waste material, has to dispose of that material due to lack of demand, it will have to pay a disposal fee.

In cooperatives of *catadores* in Curitiba, when materials lose market value, they are set aside waiting for a buyer. They may eventually be disposed of. As for non-cooperative settings, where the vast majority of *catadores* operate, they usually lack storage spaces. Therefore materials without market value may end up in a local water stream or piled up somewhere in the *favela*, waiting rubbish collection.

Cooperatives provide some hedge against price fluctuation, but they still assemble people who always live on the edge of survival. Therefore, *catadores* who collect, sort, and sell materials are permanently at the mercy of market forces that move independently from their effort or ingenuity. Many participants in this research told me their dramatic stories in the face of unstable waste materials' prices and a good number of them had very graphic expressions to describe their perplexity in relation to price fluctuations.

Some spoke of the fear they felt even when prices were high, for they dreaded the inevitability of a subsequent fall.⁶¹

It is important that *catadores*' work generates other values in order for it to provide for them sustainability. This need is even more pressing because they operate in a market where the same material can be both a commodity and a negative value. However, it is clear that *catadores* need, first and foremost, to generate economic value. How can they do it?

Economic Value

Catadores need to convert the value they generate into basic resources such as food, housing and pleasure. Economic value — the type that allows the satisfaction of material needs — is not restricted to market value, or at least from the global markets of materials, in the ways it is generated. Most *catadores* retrieve objects from the work stream, which they take home and use in different ways. In particular, it is common that women, who form most of the contingent of 'separators' in cooperatives, retrieve, for example, dolls and other toys for their children. Some cooperatives organise weekly fairs to sell some of those objects or just have a space where they are on display waiting to be bought by their neighbours. The cooperatives that are most successful in such projects are the ones who receive donations from companies that include defective or just surplus objects. Other cooperatives use in-house innovation and skill to generate economic value. In other cooperatives, certain external connections allow the development of different sorts of uses for the materials and objects that do not involve industrial reprocessing. Craftsmanship and artistry may be developed to build flowerpots from tetra pack containers or flowers from other plastics. These objects can either be

⁶¹ The sense of feeling external to the circuit that they materially mobilize is a trait that connects *catadores* with the bank traders described by Karin Knorr Cetina in her ethnography of currency markets.

sold or generate materials for educational projects. The latter form an important part of Curitiba's municipal recycling facility, which furthermore created, in 1996, the 'museum of rubbish' to display curious objects retrieved from the waste stream. The possibilities opened by the conjunction of this twenty-year-old project and the many incipient projects and ideas emerging in several cooperative settings are many and completely underused. These projects were presented and discussed in chapter six.

To sum up, the engagement of the urban poor with the recycling markets demands that they develop a set of professional skills, as I argued in chapter three. Recycling markets keep them out of their loop — exploiting their labour but returning only bare uncertain sustenance. Then, in order to hedge against this form of exploitation, cooperatives struggle to engage with the market circuits at a higher level, chiefly by attempting to 'cut out the middlemen'. This usually happens without any other mechanism that prevents them from being at the mercy of the market's voracious and self-contained circulation. Therefore few projects are devised to create different circuits of value in which *catadores* attain higher power and stability. This demands different forms of institutional support, but also an understanding of values as more than market or even economic value.

Other Types of Value

The value of social recognition and the value of political intervention are other important results that working with waste and cooperative engagement make possible. The use of the environmental value of recycling work and the advancement in social justice made possible by the exploitation of wasted materials by excluded populations are weapons that may be wielded in this endeavour. The collective political struggle of *catadores* in Brazil has yielded them remarkable conquests that are beyond the stream of materials and sparse incomes that circulate between *catadores*, the buyers of their materials, and the suppliers of the goods they consume.

Value and Values

In this thesis I chose to reject the qualitative distinction between the singular *value* and the plural *values*. Sociology was traditionally interested in social and moral values, whereas economics was concerned with value, understood as abstract value. The foundations of economic sociology were laid on the establishment of mutual relations between the two disciplines. The articulation between distinct economic value and social values gave rise to the classical notion of the embeddedness of the economy in social structures and practices. More recent debates, which were signalled in chapter one, have sought to take the next step, by levelling economic with other notions of value.

Contributions from anthropology, sociology of organisations, and economic sociology itself have concurred to demonstrate that the establishment of the global market, in collaboration with the strengthening of the social value of economics, has rendered apparently universal one particular form of valuation, thus subjugating all other regimes of value. Revaluation of waste, being a process where apparently there is a vast array of possibilities for value creation, is a critical process where the dominance of market value may be challenged.

Being able to generate different sorts of value from large quantities of materials that have negative value for the city, *catadores* endeavour to find ways of sustainable income in more advantageous exchanges. Their aim is to accrue a sustainable income and livelihood. The creation of alternative markets and the struggle for the establishment of market networks are possibilities to explore. But so are the possibilities of generating direct use-value from materials as well as of achieving forms of social recognition that may afford them public revenues from collective values generated in their work processes. An important part of this has been defended by *catadores* organisations in the

form of the claim for a municipal payment for cooperatives' service, which does not happen in Curitiba.

How can associations of *catadores* that promote alternative circuits of value support their activity? The solution demands the consideration, calculation, and promotion of the diverse values that are generated in *catadores'* collective dynamics, in order to attract some of the resources made available by public entities to the establishment of exclusively market-based solutions to environmental problems. The revaluation of urban waste is an opportunity to review the very dominant notions of value, which the contemporary financial crisis is proving inadequate to do. How can this notion of *countercycling* help us imagine overcoming these conundrums of value from which dominant views on recycling emerge as a limited solution?

Imagining a Post-Recycling World

Part of the key to a different future is paying more careful attention to history. In the years before my fieldwork I had known of the international acclaim of Curitiba as an example of best practice. Yet *catadores* were always absent from the story. When I arrived in the city I realised that they are also erased from history — the traces of their continuous participation in the daily re-cycle disappearing with the removal of the waste that they revalue and sell. This realisation elicits the importance of historicizing in gaining space for the future. This thesis has sought to show how *catadores* are made to disappear, along with waste, through the very circular dynamics of recycling.

In this context, the establishment of associations of *catadores* has created the need to record their constitution, rules, work processes, transactions, performance, and meetings, which contributes to the creation of historical traces. Furthermore the associative setting presents other opportunities to generate historical values. Although they do not exist as yet, it is easy to imagine possible initiatives, such as museum projects, that preserve artefacts and representations that tell the stories of *catadores* (and of the city). These objects may include the many materials produced by researchers.

The disappearance of any historical trace, more than an effect on the condition of the urban poor, ensues critically from rubbish/recycling dynamics. Not only is work with waste less appealing as an object of artistic and cultural production of collective memory, but it is also the circular and destructive dynamics of recycling that promotes historical disappearance. Recycling replaces the threats of non-treated waste with an ideology of sustainable recirculation that promises a steady state of reproduction. My point in this thesis is that social change and historical development struggle to find a place in this model. Future and past become engulfed by eternal circulation. Thus the politics of reclaiming urban waste is also in the battles for power over history and social change.

Some friction is necessary to generate energy and social change out of a system mostly predicated on the ideas of fluidity, circulation, and repetition. A model based on these ideas demands a great effort of de-cluttering and smoothing, which tends to impede friction and the generation of myriad sorts of energy and value. The city ascribes particular spaces for certain sets of residents and types of material, ruled as it is by principles of fluidity.

Spaciality: Rubbish and People

In Curitiba, *catadores* mostly inhabit the exit nodes and routes of the city's discards. There are three aspects of waste as a social category that are commonly associated with people who work with it.

Firstly, waste is what is generated by the process of separating *ourselves* from what *we* do not want next to *us*. Thus *we* draw distinctions: what *we* value here, what *we* despise over there. If part of what *we* try to jettison from *our* lives lingers and remains in sight, then *we* render it invisible, *we* try to forget about it. Sometimes, not seeing it is a necessary condition for it to be allowed to remain within *our* borders. Cities tend to separate the people who live off waste from those who mostly produce it. If the former have to operate within the sight of the latter, then they are made invisible, confused with the landscape. On various occasions, residents of Curitiba struck me as being completely oblivious to the presence of the ubiquitous pushcarts, horse-carts, and Kombi vans dedicated to the informal collection of recyclables. Some told me that they believed waste-pickering had disappeared a long time ago, except maybe for a few occasional pickers of paper and cardboard. Others thought waste-pickering was akin to the idle marginal life of what they perceived as the underclass or people who do not want to work. Most people in Curitiba were surprised (and curious) when I provided any information about the circuits of the waste trade initiated by *catadores*. Thus, the first

characteristic that enjoins waste with the people who live off revaluing it, is a tendency to be made invisible or concealed by the rest of the city.

Secondly, waste is redeemable, we throw it away but there are different ways of revaluing it, ways that may recover some of the value wasted in the process; just like the city may turn its back on *catadores* and then develop charitable approaches aimed at reintegrating them. The rise of recycling, and the support to associations of *catadores* based on projects rather than policies, accentuate these dynamics of exclusion/redemption directed at people and things.

Finally, waste — the stuff we dispose of — is predominantly redeemed only as exchange-value. Recycling is the extreme version of this transformation of objects with use-value that became objects with useless-value (rubbish) into materials with exchange-value (disentangled, marketable recyclables). By this very process, the people who live off rubbish are, in the dominant view, only redeemable by their ability to accrue exchange—value, i.e. to be integrated as wage labourers in the formal systems of recycling. These three points of association between people and rubbish are also points of detachment from the mainstream city. A future post-recycling city will have to address these excluding attachments.

De-Cluttering: Bodies and Rubbish

The association with rubbish artificially devalues *catadores'* humanity most particularly in that very characteristic that associates dwelling with separation from waste. This can be seen through a *We-Them* dynamics of objectification and opposition that operates through rejection and invisibility of materials and people. *We* separate ourselves from dirt and clutter, in order to open clean space for the things and people *we* value. *They* — waste-pickers — hoard waste and live beyond the border, in the margins of society, next

to the rubbish that *we* have discarded. This is how the myth of waste and value organisation orders dominant world-views. Yet, if one looks beyond the border, as a sociology of waste seeks to do, one can perceive that waste-pickers, perhaps more crucially, also have a permanent need to clean and de-clutter their lives. They also share that human need to mobilise those very dynamics of an ordered relationship with rubbish and value.

Consider a family of dump-dwellers, which sorts materials from the dump with which they have built their house. They too have to choose a location that is less prone to fires and landslides; they will seek to find a place far from the bubbling pond where leachate converges. This family will try to keep a healthy balance between the inside and outside of their house by sorting between what is valuable and what is rubbish for dwelling, as well as between what is valuable and what is rubbish for their business.

Likewise, the house of a family of *catadores* in Curitiba, in a *favela* where a large proportion of residents live off of the waste trade, may be located next to a dirty river, prone to flooding and with no waste water treatment or other basic amenities. At their door there is probably a pushcart. At the back of their self-built house, or even inside, on the lower floor, there might be a pile of cardboard, cartons, and cans waiting to be sorted and attracting flies, rats, and cockroaches. If it is true that from the outside it looks as though they live undistinguished from the waste of the city, on the land that no one else wants, it is also true that there are processes of ordering of space at play, exactly as anywhere else. The work that *catadores* carry out, both during collection and at home, is eminently classificatory, they sort out what is valuable and what is not.

Their main problem is that most classifications that rule their lives are devised elsewhere, by consumers who decide what to buy and what and how to discard; by consumer markets that drive the demand of those consumers (and/or its driven by it); by global

markets of materials that define what can be sold back into the industrial system; and by the city's economic powers that have ascribed certain spaces to certain people who perform certain functions and to certain materials that may be used in specific ways.

Likewise, it can be argued that the consumer households' relationship with waste and value is also determined elsewhere, probably via the advertising industry and the models of consumption dominated by class dynamics. If I am correct in the point I am making in this thesis, namely that market circuits impose univocal systems of classification that exploit and exclude *catadores*, whilst promising to integrate them in sustainable economic cycles of production, then what separates *catadores* from the cities where they work (i.e., the fact that they sort waste but are alienated from the process and product of their work) is also what connects them to affluent consumers engaged in recycling in the Global North. What follows explains this counter-intuitive connection.

Catadores and Affluent Eco-Consumers: Improbable Commonalities?

In western cities, households engage with recycling in the same way as Brazilian *catadores*, in as much as they follow classification systems produced elsewhere. Likewise, recycling is a system that promises to include them, that engages them materially, but that keeps them excluded from value judgements. In London, particularly, a process of extreme household isolation is an essential part of the dynamics of exclusion. Households have individual bins and suffer pressures to recycle and to conform to the rules under threats of material and/or symbolic penalties impending upon their individual households.

People's efforts to keep their houses de-cluttered, so that the things they keep may hold their value, are regulated by state and markets in an effort to recover an abstract market value from rubbish (and to make way for new products). Different values are in suppressed conflict here. There is the value of cleanliness and the municipal rights to have one's rubbish removed. There are also environmental values, more connected to

wider imagined communities. On the other side there is abstract value (market price), which dictates local governments' exchanges with waste contractors.

Western consumers, or affluent city dwellers of Curitiba, share with *catadores* many traits in their relationship with the dominant modalities of urban recycling. Maybe also for this reason, the effort of separation or distinction from people who live off their discards assumes a more critical stance. If value is primarily constructed by separation from waste, then it will be reasonable to accept that processes of classification have a dominant influence over houses, cities, and even global geopolitics. The struggle for power is thus a struggle for the imposition of particular classificatory systems over others. In this sense, perhaps urban dwelling consumers are in the same relative position of powerlessness before systems of classification, which they retro-feed but from whose production they are increasingly detached. In this sense the power over classification demands a higher consciousness over the invisible systems of value that operate in waste making, starting with the common use of language.

Waste, Countercycling, and a New Sociological Imagination

The analysis of the social processes of discarding materials encompasses two different sorts of phenomena: one that can be associated with the word waste and another associated with the word rubbish (or trash). Both involve a negative judgement, but each of them has a different character. The first one points to rejection. The valuation of objects (things, people, or actions) as rubbish or trash can be associated with an affirmation of class ascendance or prejudice — as in the expression “white trash” or when qualifying a consumption style as “rubbish!” It can also have a temporal accent, when it is associated with fashion or “planned obsolescence”, as in when last year’s phone becomes “rubbish” only when the latest model slightly outperforms it. More generally, processes of rubbish-making usually involve a relationship in which an object is rejected by a subject (individual or collective). The purpose is usually to increase or assert the value of that subject and of the other objects which he, she, or they hold dear.

The second perspective on discarding relates to the concept of waste, pointing to the notion of resource efficiency. Waste is a resource that was misused or is displaced and may be reintroduced in a productive cycle. Both waste and rubbish can be used as adjectives or names (cf translation table in chapter one), suggesting that they can appear either as descriptive or as (arbitrarily) depreciative. But waste is, differently from rubbish, also and primarily a verb. The use of the word highlights a social action involved in the process. Throwing away is thus represented, if often just implicitly, as a wasteful action, one that destroys value that could be usable or exchangeable by other people or in another time. The same could be said about processes that waste people and activities under arbitrary notions of efficiency. The arbitrary character of both notions of efficiency and systems of classification is crucial to these kinds of analyses.

Recycling arises from the social acknowledgement of wastefulness in discarding practices, both at the material and ecological level. The massive production of waste materials in contemporary cities generates the need to search for systems of classification that attribute value to what people have rejected. The evolution of urban recycling has shifted people's relationship with what they throw away, giving them a chance to be reassured that they are not wasting what they deem rubbish as long as they dispose of it in a particular way.

This narrative hides the fact that the systems of values and classification dominant in urban recycling are rooted in the very narrow notions of efficiency in the industrial model that have produced the urban waste problem. This thesis sought to question those systems of classification and value by focusing on a population that stands in-between consumers, waste, industrial production, and systems of urban recycling. The capacity to generate values from waste, other than industrial efficiency and market value, is essential if they are to counter the tendency of recycling to reproduce the same negative values of wastefulness and rubbish-making that it intends to revert. This capacity lies in the daily activities and associative dynamics of *catadores*. The social process of producing these other values from waste is what I call countercycling.

Countercycling and Sociological Imagination

This thesis started by evoking the personal experience of a consumer resident in a city of the Global North. This start was meant to elicit the sociological imagination of the reader, suggesting points of connection between personal experience and social structures. Then, we took a journey through questioning the construction of formulaic images of cities and municipal recycling, down to the reality of urban circuits that include different transactions and generate many sorts of value. I argued for the value of a sociology of waste and recycling that engages the role of labour and the particular

contribution of informal recyclers. Through this journey we were taken closer to the lives of *catadores* in Curitiba and questioned preconceptions and assumptions about their place in the city. We saw how tactical engagements of the urban poor with the city's discards have led them to constitute a regular occupation and to establish their role in the material construction of the city's economy

Yet, the city keeps excluding them through dynamics of devaluation and 'rubbishing'. Furthermore it excludes them through recycling itself, i.e through the imposition of circular routines and narrow frameworks of value. Thus the need to develop collective strategic approaches to aspiration arises. Hence, *catadores* constitute associations, cooperatives, and alternative circuits of value, and participate in political contentions. Thus they resist wasteful recycling dynamics and countercycle.

In this conclusion I went back to the beginning, seeking to bring this knowledge, this sort of Epistemology of the South (Sousa Santos 2010) back into the problematisation of the very concept of municipal recycling with which we are all too familiar. Hence, the suggestion that consumer residents in affluent cities of hegemonic countries may also be seen in the same powerless position as *catadores* with regards to their participation in alien circuits of value.

This is why this thesis, and the concept of countercycling, which it proposes, made use of the idea of sociological imagination in CW Mills' sense (1959). Just like the American sociologist, I am trying here to connect private experience with public issues.

Furthermore I am bringing in Pierre Bourdieu's idea that unawareness of the mechanisms of naturalisation of the arbitrary, makes this process all the more powerful (Bourdieu 1989). Yet, the notion of countercycling can have use-value for sociology itself, beyond the study of waste and recycling. I want to finish this thesis with this idea.

Social processes of exclusion can be seen not only within a frame of social justice but also from a perspective of waste and value. In the limit it can be argued that there is a problem of resource efficiency in many processes of subalternisation of populations or epistemological approaches. Thus we return to the idea that what we throw away now may become precious in the future. However, we are no longer talking about antiquary objects, or about materials to which we may find an industrial use in the future. Here we are talking about people, processes, and forms of knowledge that are at once dismissed and at another time become the solution to crucial social problems. I am convinced that sociology's task is exactly to identify and argue for the revaluation of those 'wastes' that unfair or uninformed social processes generate. If, apart from identifying those wastes, it can identify the very processes through which certain people and forms of knowledge and practice are wasted, it may be even closer to tackling the very causes of those social problems.

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